$ \star$	CHI	RYSLI RPOR	ER ATION	SAMP	LING RECO	ORD - SOIL			
Consulta Lescette	int: Bonsleurs d	Graham, In	c YGAF	Chrysler 9100334	r RFA Numbe -T	er	Date:	12.	1991
PROJEC	T: 7	auton Th	ermal Products				Inspector:	(ià	unkvia Lubs
LOCAT	ION:	on Webs	ki St. Daylo	1. Ohio			Laboratory:	Via	Compo Chem
			, <u>, , , , , , , , , , , , , , , , , , </u>	,			Sampler(s) Initials		(SH
l			list (Record Major (				Chain-of- Custody	00	090 and
	rilling ,	iside of	Building 40	<u>B</u>			Number	00	091
	0		RelU	Wind	(From)	Ground/Site			
Time	Temp	Weather	Humidity	Velocity	Direction	Surface			
(24 hr)	(Apprx)	(Gen)	(Apprx)	(Apprx)	(0 - 360)	Conditions	MO	<u>NITO</u>	RING
							Instrumen	t	Model No.
							OVM		580 B
					<u> </u>				

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Sample Number	Depth Range	Time	Type (Grab/Comp.)	Soil Description (color, grain size, etc.)	Sample Device	Container Size/Type	PID Reading
Number	Kange	Time		Boun	3.44	Size/Type 1-402glass	Reading
TB-4	3-5	14:00	Grab	Silly clay w/ gravel	3-inch Splitspoon	2-1602 9 ASS	1.5
101		7 7	CIVAD	Still clay of graves	Still Stock	X- IBUE GIASS	
TB-4_	14-16	15130		Brown Sand & Gravel	1 1		6.5
1	1110	75156	Y		<del>                                     </del>	<u> </u>	<u> </u>
TR-6	3-5	17:00	1	Brown Silty day w/ gravel			9.4
10.0	<del></del>	11.00		Silty ciay in grave	<del>                                     </del>		
TB-6	3-5 MS/MSD	17:00		ii u		2-402 glass	9.4
10-6	טלייוןליינ ב־ב	17.00			<del></del>	2-10E 91835	1.1
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	CHI	RYSLI RPOR	ER ATION	SAMP	LING RECO	ORD - SOIL		
Consulta	int: Brashear	sk Graham	LITAC YGQ	Chrysle 197 <i>00</i> 33	r RFA Numbe (- T	ег	Date: Dec.	13, 1997
PRÓJEC			rmal Products				Inspector:	Quanterra Labs
LOCAT	101	- U	ster Street, )	Saylon, C	hio		Laboratory:	via Compiliem
							Sampler(s) Initials	KSH
Weather	/Field Cond	itions Check	list (Record Major	Changes)			Chain-of-	
	(l	( .	-	70			11	00026 and
D	illing is	side of	Building 4	0 B		·····	Number	28574 <b>*</b>
	T		Rel. T	Wind	(From)	Ground/Site	* is Wanterras	C-0-C
Time	Temp	Weather	Humidity	Velocity	Direction	Surface		
(24 hr)	(Apprx)	(Gen)	(Apprx)	(Apprx)	(0 - 360)	Conditions	MONI	TORING
							Instrument	Model No.
							OYM	580B

	ample	Depth		Type (Grab/Comp.)	Soil Description	Sample Device	Container	PID
LN	umber	Range	Time	<del>                                     </del>	(color, grain size, etc.)	L	Size/Type 1-40zglass	Reading
TE	3-9	3-5'	0930	Grab	Black Sith-clay w/ Sand	3-inch Split Space	7-40=glass	38.6
1	3-10	1-3	1200	11	Silty-clay of Sand. Brown gravel w		y ii	35
11	5-10	1-3	1200		1931 GILLET & CLAY		11 11	
1 7	B-12	5-7	1050	u	Brown Sandand gravel	JC 21	1-4029 lass 4-1602 glass	2.1
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Chain-of-Custo	Consultant PA: Land	320 CE 162 wm jer, non- 161 , F. AD 160 Wm jer, New 160 Rue (puerre S 160 Rue (puerr
	234-7 240-7 200 200 200 200 200 200 200 200 200 20	1311 164 HCA 1311 1649 prep 1502 NM JOL, AL
ATION	Site Location Site Location Site Code: RFA Number: Chrysler PM: Caryster PM: Cover Detiverables: (circle)	
A HRYSLER	Compuchem 501 Madison Avenue Cary, NC 27513 Phone Number: 1-800-833-5097 Fax Number: (919) 379-4050 Turn-around Time Request: 24 calendar hrs. 48 calendar hrs. 60 28 days	Field Sample Learning Com

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520 CP 642 WAJEC, NOI		)		quibbol mador Arbin Yo.	Aubum Hills, Michig
11 15/Hd 05		)		Samples Reliequies	12.00-51, Aubus Pink: Remino
1311 TCLP pres 1602 bvm jar, 6/7000 TCLP 1 1011 Various, 160	7 I. I. I	7 7 7	9157 20	455	stribution: White copy, Data package Yellow: Retained by laboratory Pink: Retained by sample:
ON WOLCOMAINER   M - 1	7 /Z		Receiptor Reliquished under Airbill No. Air Character 15 15 244  Reliquished by Francis 11 15 15 15 15 15 15 15 15 15 15 15 15	Distribution: White copy, Data package Yellow: Retained by	
conposite (C)	७७			A A A A A A A A A A A A A A A A A A A	Chrysler Corporation: \$00 Chrysle copy, Data package Yellow. Retail
	क्ता स्मृहाहा क्रा	1050		Reliquished under Airbill	· · · · · · · · · · · · · · · · · · ·
	12/12/27 12/12/27			Bottles R.	Distribut
Pred Sumple recommende	F8121397- T8 121397- T89 (3-5")	T812(5-7') T810(1-3')		Sampler(s)	Cooler ID # 4775 Is RFA sampling complete?  (10)

Revision No. 1 Created September 23, 1907

# Chain of Custody Record

	12/15/97 Chain Of Custody Number 74		nalysis	195 AT	off 97	Ot Zi	, \ ?\ }		7										D Archive For Months		Date. Time	Data Time		Date
	<sub>Даго</sub>	Lab Numbe				Preservative Condition on Receipt	Now		*	07.20	434B						16.16	2 12	lent Solsposal By Lab	EEMA				
	<b>7 2 X</b>	(Area Code)/Fax Number / 1405 / 1006 /	196 1	7 68 234		Containers	2402	Γ		40000	200						Proceeding in analysis	Samole D	Return To Cilent	9 Jour /	1. Received By	2. Received By		3. Received By
(chrysler)	Project Manager	(6/2) 490 -/		12 (7)	34-7	Sample Type Volume	2015		2										B X Unknown	OCTON Chrysles Loval	Date   Time   10/12   4'.0			7469
	m Conpuchen	·	AN COM	1	# : YGQP9700234-T	Date Time	14/3/97 0930	1050	1200						+		at to Conpuction		Skin Irritant Poison B					
OUA-1124 Client	Leggette, Brasheurs - Graham	o W. County Rd E.	201	Project Name Oayton Thermul	PEA	Samp	0	2/5	(15/0 (1-3')							Consist Learned	Refer to RFA instructions sent to Compulser labs, because	Possible Hazard Identification	Non-Hazard Flammable S	Normal 104   Rush	Kai S. Hannel	2. Relinquished By	3. Relinquished By	

DISTRIBUTION: WHITE - Stays with Sample; CANARY - Returned to Client with Report; PINK - Field Copy

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CompuChem		Project P	Project Name: Dayras	A CTO	#	ComAL				3	Consultant	1	1	X		· Charle		12	
501 Madison Avenue		Site Loc	Site Location. DAYION	4775	40					A. 8. A.	Address: **.		2000		1	,		200	
Cary, NC 27513	,	Site	Site Code: SCA	20	18						<b>4</b> %		6-1			1			
Phone Number: 1-800-833-5097		RFA Nu	RFA Number: 16 0 99 7-00	000	1700	234-	1			Consult	Commitment P.N.	1				1			
Fax Number: (919) 379-4050		Chrysler PM:	r PM:	33		77274					Phone:	K 70 %			I	×	100/-	7	
Turn-around Time Request:	Data Package Deliverables: (circle)	Deliverable	3: (clrde			Cempo	TITE	Paramete	T.Method.	1				Construction dispose		W. Christ	TE CALLE	の一	高温度が
24 calendar hrs.	Chrysler Lovel 1	Δ					-	6		Γ		3.				NS .	SW E Surface Wate	Weter	
TO days	Other (specify):	<u> </u>			51	<i></i>	wa	3) -	?~• (¥	20	20	of 1	<u> </u>				1		
28 days					1/2	de	20	v•//	ر ارفسور	אסר	- Per	407 407 504	9-						
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					つけ、	d	1000 P	195/	())! (()) 0	9,00	16.Z	1/		الموسودين المراجع					
			ALC: U.S.		07	יאני ארק אלי	t 00	Hd	W 19 017	יושי מ	In	(19)			77 V.S.				
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Field Sample Identification	S Part		or or or or or		241	1/ S/	4	91 51	06	7/:	K.	* 2/	08	יריו זריו			Remote		
FB 121297	Idaha	1500	6 0		1							6				Be in 506 224	1320 A	~	
TOD Blook 121797	1	1	5	10	7			-			<u>ا</u> ر						1		
TB1 (2-9)	13/4/97- 1320	_		5 3	7	3	7	7	7	4	i	1	1	***	7. 37	Sulfus.	Cont	next chain	Kein
TB3 (18-15)	12/4kz (	0140	6	5	3 6	>	7	2	3	h	33	3	1)	10	1	100		4	
TB4 (3-51)			$\vdash$	5	7	7	1	)	7	3	N	3	1	11		The same			
TB4 (14-16)	1 1	1530	9	>	7	,	,	)	7	7	7	7	1		3	1			
186 (3-5")	<i>'</i>	1700	9	5 3	7	7	1	)	7	7	Z		1			>		3	200
TBb (3-5") MS/#50	4			5 2	7			_		* 18 . S.		13	1		1	usle	14.56		
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				-		_		_								24			
Sampler(s)	Bottles Reliquished under Airbill No.	od under Airbi	ודו	į	- Arcone	65663A	ISE ME	Samples	Samples Relinquishe	od under A	Atrbill No.	Folk	8737	87-37873874	2	Comporature	(corrected)	U	
Kai S. Harry				II.		Į		į	ł								1		
	KA. S.	Harris	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1417/03	-	٠ ٧	•	1	4	が発	が発	1	7		1	Total agreement to the second	· · · · · · · · · · · · · · · · · · ·	: :

Chrysler Corporation 800 Chrysler Drive, CIMS 482-00-51, Auburn Hills, Michigan 48326-2757 Distribution: White copy: Data package Yellow: Retained by laboratory Pink: Retained by sampler

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RFA sampling complete? 8

Cooler ID#

Revision No. 1 Created: September 23, 1997

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Chain-of-Custody

SOG 234A Suit 200 Eur 506 234 A X Remarks Graham S 411 55112 V × Address: 1210 K. Corat! Id Consultant: Leggette, Breskerrs 100 (412) 440 - 1465 Peat Consultant PM: Les 1/09E. Section Con Chrysler Corporation 800 Chrysler Drive; CIMS 482-00-51, Auburn Hills, Michigan 48326-2757
Distribution: White copy: Data package Yellow: Retained by laboratory Pink: Retained by sampler Compound Line Parameter Mothod Bottle Type Preservative 大きない はずる Phone: samples Relinquished under Airbill No. 701 1 Project Name: DAYTON THEEMAL Gary Stamzuk RFA Number: 460P 970224-7 1 1 Bottles Reliquished under Airbill No. Air Bread. 6534319 75 Site Location: DAY POULOH 5000 'n 3 M M School of the second J V V Data Package Deliverables: (circle) V Site Code: Chrysler PM: V O Ö 0460 1320 1530 12/2/97 1400 1700 Chrysler Level 1 Other (specify): 11/197 7/11/192 13:15) Field Sample Identification 11-11 Phone Number: 1-800-833-5097 3-5, 7-9' (3-51) Fax Number: (919) 379-4050 Turn-around Time Request: 501 Madison Avenue ls RFA sampling complete? Cary, NC 27513 48 calendar hrs. Yes 6 6 24 calendar hrs. CompuChem 184 78/ 84 2 Sampler(s) Ø Cooler ID # 28 days

and special instructions Please rate to RFA to Campullon Labs

Servision No. 1

before proceeding wh analyses.

Revision No. 1 Created September 23, 1997

DAIMLER	CHRYSL	ER				<del>.</del>		
CORPOR	ATION			SAMPLING RECOR	RD - SOIL			
Consultant:				DaimlerChrysler RFA N	umber:		Date:	
	Leggette, B	rashears & Gra	ham, Inc.	YGQP200023	6		July 11,	2000
PROJECT L	OCATION:	Inside Building	#59				Inspector:	Kemron &
		Dayton Therm	al Products				Laboratory:	CompuChem
		1600 Webster	Street, Dayto	n, Ohio		· · · · · · · · · · · · · · · · · · ·	Sampler(s)	
SITE CODE		SC001					Initials:	DVS
DAIMLERCI	HRYSLER						Chain-of-	
PROJECT N	ANAGER:	Gary Stanczul	(				Custody Number:	02105
							]	02108
Weather/Field	Conditions Che	ecklist (Record M					1	
		[	Relative	Wind (From)		Ground/Site		
Time	Temp.	Weather	Humidity	Velocity	Direction	Surface	MONITO	RING
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
1600	85 °F	sunny, calm	80%	working indoors		dry	OVM	580B
							Carbon Monoxide	
		<u> </u>						<u> </u>

Cample	Depth	T T	Time	Soil Description	Sample	Container	PID
Sample Number	Range	Time	Type (Grab/Comp.)	(color, grain size, etc.)	Device	Size/Type	Reading
Number	hange	Time	(Grab/Comp.)	(color, grain size, etc.)	Device	Size/Type	Reading
}		ł		Silt, sand and gravel; very fine to very	Geoprobe,		
DP-89	1-2'	1600	Grab	coarse; brownish-gray; dry; no odor.	Acetate Liner	two 2 oz. one 9 oz.	2.0
				obaros, zromnan gray, ary, no caon			
ĺ				Silt, sand and gravel; very fine to very	Geoprobe,		l
DP-89	6-7'	1605	Grab	coarse; grayish-brown; dry; no odor.	Acetate Liner	two 2 oz, one 9 oz.	2.0
				Silt, sand and gravel; very fine to coarse;	Geoprobe,	'	
DP-90	3-4'	1650	Grab	dark brown; damp; no odor.	Acetate Liner	two 2 oz, one 9 oz.	1.4
				Silt, sand and gravel; very fine to coarse;	Geoprobe,	ļ	
DP-90	6-7'	1700	Grab	dark brown; damp; no odor.	Acetate Liner	two 2 oz, one 9 oz.	0.0
			}	Silt, sand and gravel; very fine to very			
DD 04	0.01	1705	_	coarse; light brown grading to medium	Geoprobe,		
DP-91	2-3'	1735	Grab	brown; dry; no odor.	Acetate Liner	two 2 oz, one 9 oz.	3.0
				070	0		
DP-91	5-6'	1805	Grab	Silt, sand and gravel; very fine to very	Geoprobe,	0 0	
DI -91		1005	Giab	coarse; medium brown; dry; no odor.	Acetate Liner	two 2 oz, one 9 oz.	3.4
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Sampling Record Number	<del></del>	
Referenced on page	of Field Book Number	_4
Rev. 0		
April 22, 1998		

DAIMLER	CHRYSL	ER						
CORPOR	ATION			SAMPLING RECO	RD - SOIL			
Consultant:				DaimlerChrysler RFA N	umber:		Date:	
	Leggette, B	rashears & Gra	ham, Inc.	YGQP200023	6		July 12,	2000
PROJECT L	OCATION:	Inside Building	#59				Inspector: Kemron &	
		Dayton Therma	al Products				Laboratory:	CompuChem
		1600 Webster	Street, Dayto	n, Ohio			Sampler(s)	
SITE CODE	:	SC001	_				Initials:	DVS
DAIMLERCH	HRYSLER		_			<u> </u>	Chain-of-	
PROJECT N	MANAGER:	Gary Stanczuk			Custody Number:	02105		
							]	02106
Weather/Field (	Conditions Che	ecklist (Record Ma	jor Changes)				]	02108
	]		Relative	Wind (From)	-	Ground/Site		02109
Time	Temp.	Weather	Humidity	Velocity	Direction	Surface	MONITO	RING
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
1600	85 °F	sunny, calm	80%	working indoors		dry	OVM	580B
			_				Carbon Monoxide	
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	T	1	T	T	T	1 -	T
Sample	Depth		Type	Soil Description	Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size, etc.)	Device	Size/Type	Reading
1				Silt, sand and gravel; very fine to very		]	]
DP-92	3-4'	1440	Grab	coarse; trace clay; medium brown; slightly	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	1.3
DP-92	3-4	1440	Grab	damp; no odor.	Acetate Liner	two 2 oz, one 9 oz.	1.3
įĮ.				Silt, sand and gravel; very fine to very	Geoprobe,		ł
DP-92	5-6'	1455	Grab	coarse; trace clay; medium brown; slightly	Acetate Liner	two 2 oz, one 9 oz.	2.0
DF-92	3-0	1455	Grab	damp; no odor.	Acetate Linei	two 2 02, one 9 02.	2.0
				Silt, sand and gravel; very fine to very	Geoprobe,		
DP-93	2-3'	1520	Grab	coarse; medium brown; near dry; no odor.	Acetate Liner	two 2 oz, one 9 oz.	13
		1020		Silt, sand and gravel; very fine to very	Acetate Lines	100 2 02, 0116 3 02.	
Ì	1		1	coarse; brownish-gray; near dry; no odor.	Geoprobe,	)	
DP-93	6-7'	1530	Grab	(cobble @ 6 or 7')	Acetate Liner	two 2 oz, one 9 oz.	28
				(000000 & 0 011)	7 tootato Emoi	110 2 02, 0110 0 02.	20
				Silt, sand and gravel; very fine to very	Geoprobe.		
DP-94	4-5'	1630	Grab	coarse; medium brown; dry; no odor.	Acetate Liner	two 2 oz, one 9 oz.	37
				,,,,,,,_,,_,_,,,			
	l			Silt, sand and gravel; very fine to very	Geoprobe,		
DP-95	3-4'	1710	Grab	coarse; medium brown; dry; no odor.	Acetate Liner	two 2 oz, one 9 oz.	2.0
				Silt, sand and gravel; very fine to very	Geoprobe,		
DP-95	7-8'	1725	Grab	coarse; medium brown; dry; no odor.	Acetate Liner	two 2 oz, one 9 oz.	1.3
	l		l (				
DD 00	0.41	1015		Silt, sand and gravel; very fine to very	Geoprobe,	_	
DP-96	3-4'	1815	Grab	coarse; medium brown; dry; no odor.	Acetate Liner	two 2 oz, one 9 oz.	4.1
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Sampling Record Number		
Referenced on page	of Field Book Number	_4
Rev. 0		
April 22, 1998		

### DAIMLERCHRYSLER **SAMPLING RECORD - SOIL** CORPORATION Date: DaimlerChrysler RFA Number: Consultant: July 12, 2000 YGQP2000236 Leggette, Brashears & Graham, Inc. Kemron & Inspector: PROJECT LOCATION: Inside Building #50 Laboratory: CompuChem **Dayton Thermal Products** Sampler(s) 1600 Webster Street, Dayton, Ohio Initials: DVS SITE CODE: SC001 DAIMLERCHRYSLER Chain-of-02106 Custody Number: PROJECT MANAGER: Gary Stanczuk 02107 Weather/Field Conditions Checklist (Record Major Changes) 02109 Wind (From) Ground/Site 02110 Relative MONITORING Surface Humidity Velocity Direction Time Temp. Weather Conditions Instrument Model No. (0-360)(24 hour) (Approx) (General) (Approx) (Approx) OVM 580B 85 °F working indoors dry 1600 sunny, calm 80% Carbon Monoxide

Sample	Depth		Туре	Soil Description	Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size, etc.)	Device	Size/Type	Reading
DP-97	1-2'	1915	Grab	Sand, fine to medium; trace silt and coarse sand and fine gravel; dark brown; damp; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	3.4
DP-98	3-4'	1950	Grab	From 3 to 3.5' = Clay; trace fine to medium sand and gravel; dark brown; dry; stiff then Silt, sand and gravel; very fine to very coarse; brown; dry; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	1.5
DP-98	7-8'	1955	Grab	Silt, sand and gravel; very fine to very coarse; brown; dry; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	6.2
DP-99	3-4'	2005	Grab	Silt, sand and gravel; very fine to very coarse; trace clay; brown; dry; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	12.9
DP-99	7-8'	2010	Grab	Silt, sand and gravel; very fine to very coarse; brown; dry; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	4.7
DP-100	2-3'	2035	Grab	Clay; trace fine to coarse sand and gravel dispersed throughout; dark brown; damp; pliable; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	1.3
DP-100	6-7'	2040	Grab	Clay; trace fine to coarse sand and gravel dispersed throughout; dark brown; damp; pliable; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	1.3
DP-101	3-4'	2100	Grab	Clay; very fine to very coarse sand and gravel dispersed throughout; dark brown; moist; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	0.6
DP-101	7-8'	2105	Grab	From 7 to 7.5' = Clay; fine to coarse sand dispersed throughout; dark red-brown; then Sand and gravel; very fine to very coarse; trace silt; brownish-gray damp; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	0.6
DP-102	2-3'	2135	Grab	Silt, sand and gravel; very fine to very coarse; trace clay; brown; damp; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	4.2
DP-102	6-7'	2140	Grab	Silt, sand and gravel; very fine to very coarse; trace clay; brown; damp; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	4.0

Sampling Record Number		
Referenced on page	of Field Book Number4	
Rev. 0		

DAIMLER		.EK						
CORPOR	ATION_	<del></del>		SAMPLING RECOR		<u> </u>		
Consultant:	<del></del> -			DaimlerChrysler RFA Nur			Date:	2000
		Brashears & Gra		YGQP2000236			July 12,	
PROJECTI	OCATION:	Inside Building		<del></del>			Inspector:	Kemron &
		Dayton Therm		±			Laboratory:	CompuChem
			r Street, Dayton	ı, Ohio			Sampler(s)	27.0
SITE CODE		SC001		<del></del>			Initials:	DVS
DAIMLERCH		_					Chain-of-	
PROJECTIN	/IANAGEH:	Gary Stanczul	k		<u></u>		Custody Number:	02106 02107
Meather/Field (	Conditions Che	ecklist (Record M	Asior Changes)			<del></del>	4	02107
VV Guillo.,		Jennet (11551.	Relative	Wind (From)		Ground/Site	1	02110
Time	Temp.	Weather	Humidity (Approx)	Velocity (Approx)	Direction	Surface	MONITO	
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
1600	85 °F	sunny, calm	80%	working indoors	<del> </del>	dry	OVM	580B
			<del> </del>	<u> </u>			Carbon Monoxide	ļ
	<u></u>	<u> </u>			<u> </u>		<u> </u>	<u></u>
Sample	Depth		Туре	Soil Description		Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size, etc	;.)	Device	Size/Type	Reading
						Caranha		
DP-103	3-4'	2200	Grab	CLAY, brown, damp, no odor. gravel)	(no sand or	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	145
	l l		1	Silt, sand and gravel, very fin		Geoprobe,	l j	Į
DP-103	7-8'	2205	Grab	coarse, brownish-gray; trace of damp; no odor.	clay, gray;	Acetate Liner	two 2 oz, one 9 oz.	130
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Sampling Record Number		
Referenced on page	of Field Book Number	4
Rev. 0		
April 22, 1998		

Dayton Thermal Products	DAIMLER	CHRYSL	ER						
Leggette, Brashears & Graham, Inc.  PROJECT LOCATION: Inside Building #40A  Dayton Thermal Products  1600 Webster Street, Dayton, Ohio  SITE CODE: SC001  DAIMLERCHRYSLER  PROJECT MANAGER: Gary Stanczuk  Weather/Field Conditions Checklist (Record Major Changes)  Weather/Field Conditions Checklist (Record Major Changes)  Time Temp. Weather Humidity Velocity Wind (From)  (24 hour) (Approx) (General) (Approx) (Approx) (0-360) Conditions  1600 90 °F sunny, calm 80% working indoors dry OVM 580B	CORPOR	ATION			SAMPLING RECOR	D - SOIL			
PROJECT LOCATION:   Inside Building #40A	Consultant:				DaimlerChrysler RFA Nu	ımber:		Date:	
Dayton Thermal Products		Leggette, B	rashears_& Gra	ham, Inc.	YGQP2000236	<u> </u>		July 17,	2000
SITE CODE:   SC001	PROJECT L	OCATION:	Inside Building	#40A				Inspector:	Kemron &
SITE CODE:   SC001			Dayton Therm	al Products				Laboratory:	CompuChem
DAIMLERCHRYSLER PROJECT MANAGER: Gary Stanczuk  Weather/Field Conditions Checklist (Record Major Changes)  Time Temp. Weather Humidity (Approx) (General) (Approx) (Approx) (O-360) Conditions (Double of the conditions)  1600 90 °F sunny, calm 80% working indoors Chain-of-Custody Number: 02111  O2112  O212  O2112		1600 Webster	Street, Daytor	n, Ohio			Sampler(s)		
PROJECT MANAGER: Gary Stanczuk  Weather/Field Conditions Checklist (Record Major Changes)  Time Temp. Weather Humidity Velocity Direction (Approx) (General) (Approx) (Approx) (0-360) Conditions Instrument Model No. 1600 90 °F sunny, calm 80% working indoors dry OVM 580B	SITE CODE		SC001					Initials:	DVS
Weather/Field Conditions Checklist (Record Major Changes)  Time Temp. Weather Humidity Velocity Direction Surface (Approx) (General) (Approx) (Approx) (O-360) Conditions Instrument Model No. 1600 90 °F sunny, calm 80% working indoors dry OVM 580B	DAIMLERCH	HRYSLER						Chain-of-	
Weather/Field Conditions Checklist (Record Major Changes)  Time Temp. Weather Humidity Velocity Direction Surface (Approx) (General) (Approx) (Approx) (O-360) Conditions Instrument Model No. 1600 90 °F sunny, calm 80% working indoors dry OVM 580B	PROJECT M	MANAGER:	Gary Stanczuk	(				Custody Number:	02111
Time Temp. Weather (Approx) (General) (Approx) (Approx) (Approx) (Direction (O-360) Conditions (Instrument Model No. 1600 90 °F sunny, calm 80% working indoors Ground/Site (MONITORING Instrument Model No. 1600 90 °F Sunny, calm 80% working indoors Ground/Site (MONITORING Instrument Model No. 1600 90 °F Sunny, calm 80% working indoors Ground/Site (MONITORING Instrument Model No. 1600 90 °F Sunny, calm 80% working indoors Ground/Site (MONITORING Instrument Model No. 1600 90 °F Sunny, calm 80% Working indoors Ground/Site (MONITORING Instrument Model No. 1600 90 °F Sunny, calm 80% Working indoors Ground/Site (MONITORING Instrument Model No. 1600 90 °F Sunny, calm 80% Working indoors Ground/Site (MONITORING Instrument Model No. 1600 90 °F Sunny, calm 80% Working indoors Ground/Site (MONITORING Instrument Model No. 1600 90 °F Sunny, calm 80% Working indoors Ground/Site (MONITORING Instrument Model No. 1600 90 °F Sunny, calm 80% Working indoors Ground/Site (MONITORING Instrument Model No. 1600 90 °F Sunny, calm 80% Working indoors Ground/Site (MONITORING Instrument Model No. 1600 90 °F Sunny, calm 80% Working indoors Ground/Site (MONITORING Instrument MODE)								]	02112
Time (24 hour) (Approx) (General) (Approx) (Approx) (Direction (O-360)	Weather/Field C	Conditions Che	ecklist (Record M	ajor Changes)				]	
(24 hour)(Approx)(General)(Approx)(Approx)(0-360)ConditionsInstrumentModel No160090 °Fsunny, calm80%working indoorsdryOVM580B				Relative	Wind (From)		Ground/Site		
1600 90 °F sunny, calm 80% working indoors dry OVM 580B	Time	Temp.	Weather	Humidity	Velocity	Direction	Surface	MONITO	RING
The state of the s	(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
Carbon Monoxide	1600	90 °F	sunny, calm	80%	working indoors		dry	OVM	580B
								Carbon Monoxide	

						<u></u>	
Sample	Depth		Туре	Soil Description	Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size, etc.)	Device	Size/Type	Reading
DP-104	3-4'	1515	Grab	Silt, sand and gravel; very fine to coarse; E38brown; damp; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	0.9
DP-104	7-8'	1520	Grab	SILT, medium brown, damp, no odor. (resembles loess)	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	0.5
DP-105	3-4'	1540	Grab	Silt, sand and gravel; very fine to very coarse; brown; dry; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	24
DP-105	7-8'	1545	Grab	Silt, sand and gravel; very fine to very coarse; brown; dry; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	8.0
DP-106	2-3'	1555	Grab	Clay; little silt, sand and gravel dispersed throughout; dark brown; damp; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	6.1
DP-106	6-7'	1600	Grab	Sand, fine; trace medium to very coarse sand and very fine gravel; dry; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	13.3
DP-107	2-3'	1635	Grab	Clayey silt, sand and gravel; very fine to coarse; dark brown; damp; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	14.1
DP-108	3-4'	1700	Grab	Silt, brown; trace fine sand; damp; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	14.3
DP-108	7-8'	1705	Grab	Silt, sand and gravel; very fine to medium; brownish-gray; damp; no odor.	Geoprobe, Acetate Liner	two 2 oz, one 9 oz.	3.6

Sampling Record Number		
Referenced on page	of Field Book Number	4
Rev. 0		

DAIMLER	RCHRYSL	.ER						
CORPOR	ATION			SAMPLING RECOF	RD - SOIL			_
Consultant:				DaimlerChrysler RFA N	umber:	YGQP2000205	Date:	2/2/00
	Leggette, E	Brashears & Gra	aham, Inc.					
PROJECT I	OCATION:	Hazardous W	aste Storage A	rea			Inspector:	Kemron &
		Dayton Therm	nal Products				Laboratory:	CompuChem
		1600 Webster	Street, Daytor	n, Ohio			Sampler(s)	DGO/DVS/
SITE CODE		SC001					Initials:	CFH _
DAIMLERC	HRYSLER						Chain-of-	
PROJECT I	MANAGER:	Gary Stanczu	k				Custody Number:	0624, 0625
								0626, 0627
Weather/Field	Conditions Ch	ecklist (Record M	ajor Changes)					
			Relative	Wind (From)		Ground/Site	<u> </u>	
Time	Temp.	Weather	Humidity	Velocity	Direction	Surface	MONITO	RING
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
13:00	20 F	SUNNY	54%	5	NW	DRY	Hnu	PI-101
Sample	Depth		Туре	Soil Description		Sample	Container	PID

Sample	Depth	T	Туре	Soil Description	Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size, etc.)	Device	Size/Type	Reading
740771501	range	11110	(Grab/Gorrip:/	(600), grain 5120, 510.)		0.20,17,00	rtodding
DP-075	2-4'	13:10	Grab	Sand and gravel; fill; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	1
				Cana and graver, im, elevini	1		
DP-075	6-8'	13:20	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	2
DP-075	14-16'	13:25	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	11
DP-075	18-20'	13:35	Grab	Sand; some fine gravel; brown.	Geoprobe, Acetate Liner	one 4 oz	9
DP-076	2-4'	14:00	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	1
DP-076	6-8'	14:10	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	3
DP-077	10-12'	16:10	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	3
DP-077	14-16'	16:15	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	7
DP-078	6-8'	16:30	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	1
DP-078	16-18'	16:40	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	one 4 oz	2

Sampling Record Number	<del></del>	
Referenced on page	of Field Book Number4	
Rev O		

DAIMLERO	CHRYSL	ER	<del></del>					
CORPORA	TION		_	SAMPLING REC	ORD - SOIL			
Consultant:			<del></del>	DaimlerChrysler RFA	Number:	YGQP2000205	Date:	2/3/00
	Leggette, B	rashears & Gra	ham, Inc.	<u></u>				
PROJECT LC	CATION:	Hazardous W	aste Storage A	rea		·	Inspector:	Kemron &
		Dayton Therm	al Products				Laboratory:	CompuChem
]		1600 Webster	Street, Dayton	n, Ohio			Sampler(s)	DGO/DVS/
SITE CODE:		SC001	_			-	Initials:	CFH
DAIMLERCH	RYSLER						Chain-of-	
PROJECT MA	ANAGER:	Gary Stanczul	(				Custody Number:	0624, 0625
								0626, 0627
Weather/Field Co	onditions Che	ecklist (Record M	ajor Changes)					
			Relative	Wind (Fror	m)	Ground/Site		
Time	Temp.	Weather	Humidity	Velocity	Direction	Surface	MONITO	
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
10:00	30 F	SNOW	100%	5	NW	DAMP	Hnu	PI-101
	·							
								<u></u>

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Sample	Depth		Туре	Soil Description	Sample	Container	PID
Number	_Range	Time	(Grab/Comp.)	(color, grain size, etc.)	Device	Size/Type	Reading
DP-079	2-4'	8:00	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	1
DP-079	14-16'	8:15	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	4
DP-080	2-4'	8:45	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	1
DP-081	2-4'	9:20	Grab	Clay (2-3') Sand; some fine to medium gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	
DP-081	8-12'	9:35	Grab	Sand; some fine to medium gravel; brown	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	3
DP-082	2-4'	9:50	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	
DP-082	6-8'	10:00	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	5
DP-083	2-4'	10:20	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	11
DP-083	18-20'	11:00	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	one 4 oz, two 8 oz.	3
DP-084	2-4'	11:10	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	1
DP-084	6-8'	11:20	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	1

Sampling Record Number	
Referenced on page	of Field Book Number4
Rev. 0	

DAIMLEF	RCHRYSL	ER						
CORPOR	ATION			SAMPLING RECO	RD - SOIL			
Consultant:				DaimlerChrysler RFA N	Number:	YGQP2000205	Date:	2/3/00
	Leggette, E	Brashears & Gra	ham, Inc.	<u> </u>				
PROJECT I	LOCATION	Hazardous W	aste Storage A	\rea			Inspector:	Kemron &
		Dayton Therm	al Products				Laboratory:	CompuChem
		1600 Webster	Street, Dayto	n, Ohio			Sampler(s)	DGO/DVS/
SITE CODE	<u>:</u> :	SC001					Initials:	CFH _
DAIMLERC	HRYSLER						Chain-of-	
PROJECT I	MANAGER:	Gary Stanczuk	<				Custody Number:	0624, 0625
							-	0626, 0627
Weather/Field	Conditions Ch	ecklist (Record M	ajor Changes)				)	
	]		Relative	Wind (From)		Ground/Site		
Time	Temp.	Weather	Humidity	Velocity	Direction	Surface	MONITO	RING
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
10:00	30 F	SNOW	100%	5	NW	DAMP	Hnu	PI-101
Sample	Denth		Type	Soil Description	n	Sample	Container	PID

Sample	Depth		Туре	Soil Description	Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size, etc.)	Device	Size/Type	Reading
DP-085	2-4'	12:25	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	4
DP-085	10-12'	12:35	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	15
DP-086	1-4'	13:00	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	four 4 oz, four 8 oz. Dup.	11
DP-086	14-16'	13:10	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	one 4 oz, two 8 oz.	
DP-087	2-4'	13:30	Grab	Clay; some medium to coarse gravel; dark brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	
DP-087	5-8'	13:35	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	4
DP-087	14-16'	13:50	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	9
DP-087	18-20'	13:58	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	7
DP-088	2-4'	14:20	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	one 4 oz, two 8 oz.	2
DP-088	6-8'	14:30	Grab	Sand; some medium to coarse gravel; brown.	Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	2
			Grab		Geoprobe, Acetate Liner	two 4 oz, two 8 oz.	

Sampling Record Number			
Referenced on page	_ of Field Book Number_	4	
Rev. 0			

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DAIMLER	CHRYSL	ER						
CORPOR	ATION			SAMPLING REC	ORD - S	SOIL		
Consultant:				DaimlerChrysler RF/	A Number	:	Date:	
<u> </u>	Leggette, B	rashears & G	raham, Inc.	YGQP200120	)7	SDG 207E	March 28	3, 2001
PROJECT I	OCATION:	Offsite Dril	ling				Inspector:	
		Dayton Th	ermal Produc	ts			Laboratory:	Kemron
		1600 Web	ster Street, D	ayton, Ohio			Sampler(s)	
SITE CODE	•	SC001					Initials:	МСР
DAIMLERC	HRYSLER						Chain-of-	
PROJECT N	/ANAGER:	Gary Stand	zuk				Custody Number:	Lancaster's
								0267
Weather/Field (	Conditions Che	cklist (Record	Major Changes) Relative	Wind (From)		Ground/Site	4	
Time	Temp.	Weather	Humidity	Velocity Velocity	Direction	Surface	MONITO	RING
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
6:45	28 F	clear		breeze		dry	OVM	580B
							<u> </u>	
								,
Sample Number	Depth	Time	Type	Soil Description		Sample Device	Container Size/Type	PID
Number	Range	THITE	(Grab/Comp.)	(color, grain size,	eic.)	Device	Size/Type	Reading
						Rotosonic 10-foot		
PZ024I	38 feet bg	14:30	Grab	SAND, medium to very co fine gravel; brown; sat		long/4-inch diameter continuous core.	One 2-ounce glass.	41
	100.29			mio giarci, si civi, co			l divide device grade.	
				Cond and book and Sa		Rotosonic 10-foot		
PZ028I	41 feet bg	10:35	Grab	Sand, medium; and fine brown; saturated		long/4-inch diameter continuous core.	One 2-ounce glass.	36
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Sampling Record Number	
Referenced on page	of Field Book Number
Rev.0	
April 22, 1998	

DAIMLER	RCHRYSL	ER						
CORPOR	ATION			SAMPLING RE	CORD -	SOIL	`	
Consultant:			<del></del>	DaimlerChrysler R	FA Numbe	r:	Date:	<u> </u>
	Leggette, B	rashears & Gra	aham, Inc.	YGQP20012	.07		March 2	7, 2001
PROJECT I	OCATION:	Offsite Drillin	ng				Inspector:	
		Dayton Ther	rmal Products				Laboratory:	
		1600 Webst	er Street, Day	rton, Ohio			Sampler(s)	
SITE CODE	<b>:</b> :	SC001					Initials:	MCP
DAIMLERC	HRYSLER						Chain-of-	
PROJECT N	MANAGER:	Gary Stancz	uk				Custody Number:	
Weather/Field	Conditions Che	ecklist (Record Ma	ajor Changes)				<u> </u>	
<b>_</b> .			Relative	Wind (From	,	Ground/Site	MONITO	ODING
Time (24 hour)	Temp. (Approx)	Weather (General)	Humidity (Approx)	Velocity (Approx)	Direction (0-360)	Surface Conditions	Instrument	Model No.
06:45	20 F	cloudy		windy		dry	OVM	580B
Sample	Depth		Type	Soil Description		Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size,	etc.)	Device	Size/Type	Reading
NEST 25	NO SAMPLE COLLECTED				\			
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Sampling Record Number\_\_\_\_\_\_ of Field Book Number\_\_\_\_\_\_ Rev.0

DAIMLER	CHRYSL	ER						
CORPOR	ATION			SAMPLING REC	ORD - S	SOIL		
Consultant:	<del></del>			DaimlerChrysler RF/	4 Number		Date:	
	Leggette, B	rashears & Gra	iham, Inc.	YGQP200120	)7	SDG 207D	March 23	, 2001
PROJECT L	OCATION:	Offsite Drillin	ıg				Inspector:	
		Dayton Ther	mal Products				Laboratory:	Kemron
			er Street, Day				Sampler(s)	
SITE CODE	:	SC001	_				Initials:	MCP
DAIMLERC			<del></del>				Chain-of-	
1		Gary Stanczi	uk				Custody Number:	Lancaster's
		<u> </u>					<u></u>	0631
Weather/Field (	Conditions Che	ecklist (Record Ma	ajor Changes)				<u>]</u>	
			Relative	Wind (From)	1,	Ground/Site	1401150	
Time (24 hour)	Temp. (Approx)	Weather (General)	Humidity (Approx)	Velocity (Approx)	Direction (0-360)	Surface Conditions	MONITO Instrument	RING Model No.
	T -	1	(Approx)	i i	(0-000)	<del>  ==</del>	OVM	580B
6:45	43 F	clear	<del> </del>	breeze		dry	OVIVI	3008
	<del> </del>		<del> </del>		<del> </del>	ļ		<del>                                     </del>
	<del> </del>		-				<u> </u>	<del> </del>
	<u> </u>		<u> </u>		<u> </u>	<u> </u>	<u></u>	
Sample	Depth		Туре	Soil Description	n	Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size,		Device	Size/Type	Reading
		'	.	Sand, very coarse; and f	ino graval:	Rotosonic 10-foot		
į				trace medium gravel; tra		long/4-inch diameter	1	
PZ026I	50 feet	10:40	Grab	gravel; brown; satur		continuous core.	One 2-ounce glass.	11 ppm
				1		1		
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Sampling Record Number	<del></del>
Referenced on page	of Field Book Number
Rev.0	

DAIMLER	CHRYSL	ER						
CORPOR	ATION _			SAMPLING RE	CORD - S	SOIL		
Consultant:				DaimlerChrysler R	FA Number	:	Date:	
	Leggette, Br	rashears & Gral	ham, Inc.	YGQP20012	207		April 2,	2001
PROJECT L	OCATION:	Offsite Drillin	ıg				Inspector:	
Dayton Thermal Products							Laboratory:	
1600 Webster Street, Day				/ton, Ohio			Sampler(s)	
SITE CODE:	:	SC001					Initials:	DVS
DAIMLERCH	1RYSLER						Chain-of-	
PROJECT M	IANAGER:	Gary Stanczı	uk				Custody Number:	
Weather/Field C	Conditions Che	cklist (Record Ma	nior Changes)				-	
77001.5	Oliul. S. I.		Relative	Wind (From		Ground/Site	TL	
Time	Temp.	Weather (General)	Humidity (Approx)	. Velocity	Direction	Surface	MONITO	
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
06:30	34 F	hazy		calm		dry	OVM	580B
	<del>                                     </del>	<del> </del>			-			
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Sample	Depth		Туре	Soil Description	on	Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size,		Device	Size/Type	Reading
	NO SAMPLE			İ				
	COLLECTED							
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Rev.0	
April 22, 1998	

DAIMLER	≀CHRYSL	ER								
CORPOR	ATION			SAMPLING REC	CORD - S	3OIL				
Consultant:				DaimlerChrysler RF	A Number	•	Date:			
	Leggette, B	rashears & Gra	aham, Inc.	YGQP20012	207	SDG 207D	March 19, 2001			
PROJECT L	OCATION:	Offsite Drillin	1g				Inspector:			
Dayton Thermal Products				}			Laboratory:	Kemron		
		1600 Webste	er Street, Day	yton, Ohio			Sampler(s)			
SITE CODE	··	SC001	SC001				Initials:	MCP		
DAIMLERC	HRYSLER	<del></del>					Chain-of-			
PROJECT N	MANAGER:	Gary Stancz	.uk				Custody Number:	Lancaster's		
								0631		
Weather/Field	Conditions Che	cklist (Record Ma	ajor Changes)  Relative	Wind (From)	<u>,                                      </u>	Ground/Site	1	<del></del>		
Time	Temp.	Weather	Humidity	Velocity	Direction	Surface	MONITO	RING		
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.		
6:45	31 F	clear		calm		dry	OVM	580B		
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r			T			1		<del></del>		
Sample Number	Depth Range	Time	Type (Grab/Comp.)	Soil Descriptio (color, grain size,		Sample Device	Container Size/Type	PID Reading		
Number	Trange	Time	(Olab/Comp.)	(60101, 914111 5125)	610.7	Device	OIZE: 1 ypc	reading		
			[		ı	Rotosonic 10-foot				
				SAND; medium to very co	coarse; trace	long/4-inch diameter	1			
MW029S	28-29 feet bg	14:40	Grab	medium gravel; brown;		continuous core.	One 2-ounce glass.	115 ppm		
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DAIMLER	CHRYSL	ER						
CORPOR	ATION			SAMPLING RI	ECORD -	SOIL		<u></u>
Consultant:				DaimlerChrysler F	RFA Numbe	er:	Date:	
	Leggette, B	rashears & Gra	ham, Inc.	YGQP2001	207		March 2	1, 2001
PROJECT L	OCATION:	Offsite Drillin	g				Inspector:	
		Dayton Ther	mal Products				Laboratory:	
		1600 Webste	er Street, Day	ton, Ohio			Sampler(s)	
SITE CODE		SC001					Initials:	МСР
DAIMLERC	HRYSLER						Chain-of-	-
PROJECT N	MANAGER:	Gary Stancz	uk			<del></del>	Custody Number:	<del></del>
Mostbor/Field	Conditions Cha	cklist (Record Ma	ior Changes)			<del></del>	4	
Weather/Field	John Che	CKIIST (IVECOID IVIE	Relative	Wind (Fror	n)	Ground/Site	┨	
Time	Temp.	Weather	Humidity	Velocity	Direction	Surface	MONITO	
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
06:45	40 F	raining		no wind		wet	OVM	580B
			7,7		<del> </del>		_	<del></del>
							<b> </b>	
		<u> </u>						
Comple	Donth	1	Type	Sail Deagrin	tion	Comple	Centainer	T DID
Sample Number	Depth Range	Time	Type (Grab/Comp.)	Soil Descript (color, grain size		Sample Device	Container Size/Type	PID Reading
MW030S	NO SAMPLE							
10100000	COLLECTED					· · · · · · · · · · · · · · · · · · ·	1	-
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Sampling Record Number	
Referenced on page	of Field Book Number
Rev.0	
April 22, 1998	

DAIMLER	CHRYSL	ER						
CORPOR	ATION			SAMPLING RE	CORD -	SOIL		
Consultant:				DaimlerChrysler R			Date:	
	Leggette, B	rashears & Gra	ham, Inc.	YGQP20012	207		April 3,	2001
PROJECT L	.OCATION:	Offsite Drilling	ıg				Inspector:	
		Dayton Ther	mal Products				Laboratory:	<del></del>
		1600 Webst	er Street, Day	ton, Ohio			Sampler(s)	
SITE CODE	:	SC001					Initials:	DVS
DAIMLERCI	HRYSLER						Chain-of-	
PROJECT N	MANAGER:	Gary Stancz	uk				Custody Number:	
Weather/Field (	Conditions Che	cklist (Record Ma	aior Changes)	<del></del>	<u> </u>		╣	
Wouthern lold (		The contract of the contract o	Relative	Wind (From	)	Ground/Site	-	
Time	Temp.	Weather	Humidity	Velocity	Direction	Surface	MONITO	
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions .	Instrument	Model No.
06:15	40 F			calm		dry	OVM	580B
			<u> </u>				<del> </del>	
							1	
	<u> </u>	<u> </u>			<u></u>	<u> </u>		
Sample	Depth		Туре	Soil Description		Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size,	etc.)	Device	Size/Type	Reading
NEST 31	NO SAMPLE COLLECTED	!						
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				<u>.</u>				

Sampling Record Number_		
Referenced on page	of Field Book Number_	
Rev.0		
April 22, 1998		

DAIMLER	CHRYSI	FR			=			
CORPOR		LIX		SAMPLING REC	י חפט. יַ	SOII		
Consultant:	AHOR			DaimlerChrysler RFA			Date:	
Consumant	Leaaette, B	rashears & Gra	aham, Inc.	YGQP200120		SDG 207C	March 14	¥. 2001
PROJECT L		Offsite Drillin		<u>                                     </u>			Inspector:	
110022			rmal Products	·			Laboratory:	Kemron
			er Street, Day				Sampler(s)	
SITE CODE		SC001					/Initials:	DVS
DAIMLERCH							Chain-of-	
ŀ		Gary Stancz	uk				Custody Number:	CompuChem
							]	04633
Weather/Field (	Conditions Che	ecklist (Record Ma		1		2 -4/046	1	
Time	Temp.	Weather	Relative Humidity	Wind (From) Velocity	Direction	Ground/Site Surface	MONITO	DING
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
6:30	34 F	cloudy		breeze		damp	OVM	580B
						1	1	
	1							<b>†</b>
Sample	Depth		Type	Soil Description		Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size, e	etc.)	Device	Size/Type	Reading
			_			Rotosonic 10-foot long/4-inch		
				SAND, fine to medium;	; brown;	diameter		Į į
MW032S	23 feet bg	10:40	Grab	saturated.		continuous core.	One 2-ounce glass.	16 ppm
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Sampling Record Number\_\_\_\_\_\_ of Field Book Number\_\_\_\_\_\_ Rev.0

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DAIMLER	CHRYSL	ER						
CORPOR	ATION			SAMPLING R	RECORD -	SOIL		
Consultant:				DaimlerChrysler	RFA Numbe	er:	Date:	<del></del>
	Leggette, B	rashears & G	raham, Inc.	YGQP200	1207	SDG 207A	March 7, 2001	
PROJECT L	OCATION:	Offsite Dril	ing				Inspector:	
		Dayton The	ermal Product	ts			Laboratory:	Kemron
		1600 Webs	ster Street, Da	ayton, Ohio			Sampler(s)	
SITE CODE		SC001					Initials:	DVS
DAIMLERCI	HRYSLER				··· —		Chain-of-	<del></del>
PROJECT N	MANAGER:	Gary Stand	zuk				Custody Number:	CompuChem
							]	02118
Weather/Field (	Conditions Che	cklist (Record I	<del>,</del>	1 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		Ground/Site	]	
Time	Toma	Weather	Relative Humidity	Wind (Fro	Direction	Ground/Site Surface	MONITO	)PING
(24 hour)	Temp. (Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
7:00	33 F	cloudy		calm		1/4-inch new snow	OVM	580B
Sample	Depth		Туре	Soil Descri		Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain si	ze, etc.)	Device	Size/Type	Reading

Sample	Depth		Туре	Soil Description	Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size, etc.)	Device	Size/Type	Reading
			i	Silt with fine sand; varved	Rotosonic 10-foot		
				appearance; light whitish brown;	long/4-inch diameter		
MW033S	18 feet bg	13:10	Grab	dry.	continuous core.	One 2-ounce glass.	36
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Sampling Record Number		
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DAIMLERCHRYSI	ER						
CORPORATION			SAMPLING RE	CORD -	SOIL		
Consultant:		<del></del>	DaimlerChrysler R	FA Numbe	er:	Date:	
Leggette,	Brashears & Gra	ham, Inc.	YGQP20012	207	SDG 207A	March 6	, 2001
PROJECT LOCATION	: Offsite Drillin	g				Inspector:	
	Dayton Ther	mal Products	<b>3</b>			Laboratory:	Kemron
	1600 Webste	er Street, Day	yton, Ohio			Sampler(s)	
SITE CODE:	SC001					Initials:	DVS
DAIMLERCHRYSLER					<del>-</del>	Chain-of-	
PROJECT MANAGER	: Gary Stancz	uk				Custody Number:	CompuChem
						<u>}</u>	02118
Weather/Field Conditions Ch	ecklist (Record Ma		<b>*</b>			]	
		Relative	Wind (From	<del>†</del>	Ground/Site	<u> </u>	
Time Temp.	Weather	Humidity	Velocity	Direction	Surface	MONITO	
(24 hour) (Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
6:45 20 F	cloudy		10-20 mph winds		1-inch new snow	OVM	580B
		_					

Sample	Depth		Туре	Soil Description	Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size, etc.)	Device	Size/Type	Reading
MW034S	25 feet bg	9:05	Grab	Sand and gravel, very fine to very coarse; trace cobles up to 4-inches; trace silt; brown; damp-moist.	Rotosonic 10-foot long/4-inch diameter continuous core.	One 2-ounce glass.	57

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DAIMLER	CHRYSL	ER						
CORPOR				SAMPLING RE	CORD -	SOIL		
Consultant:				DaimlerChrysler R			Date:	<del></del>
	Leggette, B	rashears & Gra		YGQP20012			March 2	20, 2001
PROJECT L	OCATION:	Offsite Drillin	ng				Inspector:	
			rmal Products				Laboratory:	Kemron
			er Street, Day				Sampler(s)	
SITE CODE	. <b>:</b>	SC001					Initials:	МСР
DAIMLERCI							Chain-of-	<del> </del>
		Gary Stancz	uk				Custody Number:	
Weather/Field (	Conditions Che	ecklist (Record Ma		Wind (From		Ground/Site	]	
Time	Temp.	Weather	Relative Humidity	Velocity Velocity	Direction	Ground/Site Surface	MONITO	ORING
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
06:30	35 F	overcast		breeze		dry	OVM	580B
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Sample	Depth	T:	Type (Grab/Comp.)	Soil Descriptio		Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size,	, etc.)	Device	Size/Type	Reading
	NO SAMPLE		1	ı				
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Sampling Record Number	
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April 22, 1998	

DAIMLER	CHRYSL	ER						
CORPOR	ATION	_		SAMPLING RE	CORD - S	OIL		
Consultant:				DaimlerChrysler R	FA Number:		Date:	
	Leggette, B	rashears & G	raham, Inc.	YGQP2001	207	SDG 207B	March 12	2, 2001
PROJECT L	OCATION:	Offsite Drill	ing				Inspector:	
		Dayton The	ermal Produc	ts			Laboratory:	Kemron
			ster Street, D				Sampler(s)	
SITE CODE	:	SC001			-		Initials:	DVS
DAIMLERCI		-					Chain-of-	-
PROJECT N	ANAGER:	Gary Stand	zuk				Custody Number:	CompuChem
								04632
Weather/Field (	Conditions Che	cklist (Record I	Major Changes)					
	I		Relative	Wind (Fror	n)	Ground/Site		
Time	Temp.	Weather	Humidity	Velocity	Direction	Surface	MONITO	RING
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
13:40	~40 F	cloudy	sprinkling	breezy		wet	OVM	580B
Sample	Depth		Туре	Soil Descript	ion	Sample	Container	PID

Sample	Depth		Туре	Soil Description	Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size, etc.)	Device	Size/Type	Reading
MW036S	18 feet bg	13:50	Grab	Silty sand and gravel, very fine to very coarse; trace cobbles to 3.5"; poorly sorted; brown; damp; no odor.	Rotosonic 10-foot long/4-inch diameter continuous core.	One 2-ounce glass.	57

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April 22, 1998	

DAIMLER	CHRYSL	ER						
CORPOR				SAMPLING REC	CORD - S	SOIL		
Consultant:				DaimlerChrysler RF			Date:	<del></del>
	Leggette, B	Brashears & G	raham, Inc.	YGQP20012		SDG 207C	March 15	5, 2001
PROJECT L							Inspector:	<del></del>
			ermal Produc	ots			Laboratory:	Kemron
			ster Street, D				Sampler(s)	
SITE CODE		SC001					Initials:	DVS
	DAIMLERCHRYSLER						Chain-of-	
	PROJECT MANAGER: Gary Stanczuk		czuk				Custody Number:	CompuChem
								04633
Weather/Field (	Conditions Che	cklist (Record	Major Changes)	T Mind (From	<del></del>	T Cd/Site	]	
Time	Temp.	Weather	Relative Humidity	Wind (From Velocity	) Direction	Ground/Site Surface	MONITO	PING
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
7:00	43 F	cloudy		breezy		dry	OVM	580B
					1			
Sample	Depth		Type	Soil Description		Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size,	etc.)	Device	Size/Type	Reading
	<u>'</u>			SAND; medium to coars		Rotosonic 10-foot		
PZ037I	10 fact ha	13:05	Grab	and very coarse sand;		long/4-inch diameter		427
P203/1	48 feet bg	13.00	Grab	medium gravel; brown;	saturateu.	continuous core.	One 2-ounce glass.	127
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DAIMLER	CHRYSL	ER						
CORPOR	ATION			SAMPLING REC	CORD - S	SOIL		
Consultant:				DaimlerChrysler RF	A Number	:	Date:	<del></del>
	Leggette, B	rashears & G	Graham, Inc.	YGQP20012	07	SDG 207A	March 9	, 2001
PROJECT LOCATION: Offsite Drilling							Inspector:	
		Dayton Th	ermal Produc	ets			Laboratory:	Kemron
		1600 Web	ster Street, D	ayton, Ohio			Sampler(s)	
SITE CODE	:	SC001					Initials:	DVS
DAIMLERC	HRYSLER						Chain-of-	
PROJECT N	ANAGER:	Gary Stand	czuk				Custody Number:	CompuChem
								02118
Weather/Field	Conditions Che	cklist (Record	Major Changes)				]	
<del></del> -	<b>.</b>	18/2 24/2 24	Relative	Wind (From)	Direction	Ground/Site Surface	MONITO	DINC
Time (24 hour)	Temp. (Approx)	Weather (General)	Humidity (Approx)	Velocity (Approx)	(0-360)	Conditions	Instrument	Model No.
6:45	23 F	cloudy		breezy	west	1/8-inch new snow	OVM	580B
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			<del> </del>		†			<del>                                     </del>
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Sample	Depth		Туре	Soil Description	on .	Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size,	etc.)	Device	Size/Type	Reading
MW038S	28 feet bg	9:15	Grab	SAND; medium to very c fine to medium grave saturated. End of sampl silty with very coarse	l; brown; le is slightly	Rotosonic 10-foot long/4-inch diameter continuous core.	One 2-ounce glass.	19

L	MW038S	28 feet bg	9:15	Grab	saturated. End of sample is slightly silty with very coarse gravel.	long/4-inch diameter continuous core.	One 2-ounce glass.	19
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April 22, 1998	

DAIMLER	CHRYSL	ER						
CORPOR	ATION			SAMPLING REC	ORD - S	SOIL		
Consultant:			<del></del> -	DaimlerChrysler RFA	Number:		Date:	
	Leggette, B	rashears & G	raham, Inc.	YGQP200120	)7	SDG 207F	April 4,	2001
PROJECT L	OCATION:	Offsite Dril	ling				Inspector:	
		Dayton The	ermal Produc	ts			Laboratory:	Kemron
		1600 Webs	ster Street, Da	ayton, Ohio		_	Sampler(s)	
SITE CODE	•	SC001	,				Initials:	DVS
DAIMLERCI	HRYSLER						Chain-of-	<del></del>
PROJECT N	/ANAGER:	Gary Stand	czuk				Custody Number:	CompuChem
							]	04639
Weather/Field (	Conditions Che	cklist (Record					]	
<b>+</b> :	7	Weather	Relative	Wind (From)	Direction	Ground/Site Surface	MONITO	PINC
Time (24 hour)	Temp. (Approx)	(General)	Humidity (Approx)	Velocity (Approx)	(0-360)	Conditions	Instrument	Model No.
6;45	35 F	sunny		breezy		dry	OVM	580B
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<u> </u>						<del></del>		<del></del>
Sample	Depth		Туре	Soil Description		Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size, e	etc.)	Device	Size/Type	Reading
				  Silty sand and gravel, very	fine to very	Rotosonic 10-foot	1	
				coarse; trace cobbles up t	to 4-inches;	long/4-inch diameter	1	
MW039S	19 feet bg	9:30	Grab	brown; dry; no od	or.	continuous core.	One 2-ounce glass.	. 36
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April 22, 1998	

DAIMLERC	HRYSL	ER						
CORPORA	TION			SAMPLING RE	CORD - S	SOIL		
Consultant:				DaimlerChrysler RI	-A Number	:	Date:	
LL	∟eggette, Bi	rashears & G	iraham, Inc.	YGQP2001.	207	SDG 207F	April 5,	2001
PROJECT LO	CATION:	Offsite Dril	ling				Inspector:	
		Dayton Th	ermal Produc	its			Laboratory:	Kemron
		1600 Webs	ster Street, D	ayton, Ohio			Sampler(s)	
SITE CODE:		SC001					Initials:	DVS
DAIMLERCHE	RYSLER						Chain-of-	
PROJECT MA	NAGER:	Gary Stand	czuk				Custody Number:	CompuChem
							]	04639
Weather/Field Co	nditions Che	cklist (Record		1			]	
Time	Tomp	Monther	Relative	Wind (Fron		Ground/Site	MONITO	PING
(24 hour)	Time Temp. Weather Humidity Velocity Direction Surface (24 hour) (Approx) (General) (Approx) (Approx) (O-360) Condition					Conditions	Instrument	Model No.
~8:30	40's	sunny		near calm		dry	OVM	580B
						-	1	
						<u> </u>		
					+		<b> </b>	<u> </u>
							<u> </u>	<u> </u>
Sample	Depth		Туре	Soil Descripti		Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size	, etc.)	Device	Size/Type	Reading
						Rotosonic 10-foot		
				Silty sand and gravel; to		long/4-inch diameter		
MW040S	18 feet bg	8:30	Grab	up to 3.5-inches; bro	own; dry.	continuous core.	One 2-ounce glass.	15
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Sampling Record Number	
Referenced on page	of Field Book Number
Rev.0	

DAIMLER	CHRYSL	ER						
CORPOR	ATION			SAMPLING RE	CORD - Se	OIL		
Consultant:				DaimlerChrysler R	FA Number:		Date:	
	Leggette, B	rashears & G	iraham, Inc.	YGQP2001	207	SDG 207F	April 5,	2001
PROJECT L	OCATION:	Offsite Dril	ling				Inspector:	
		Dayton Th	ermal Produc	cts			Laboratory:	Kemron
		1600 Web	ster Street, D	ayton, Ohio			Sampler(s)	
SITE CODE	•	SC001					Initials:	DVS
DAIMLERCH	HRYSLER						Chain-of-	
PROJECT M	1ANAGER:	Gary Stand	czuk				Custody Number:	CompuChem
							4	04640
Weather/Field C	Conditions Che	cklist (Record			n)	Ground/Site	-	
Time	Temp. Weather Humidity Velocity Direction Surface						MONITO	RING
(24 hour)	(Approx)	(General)	(Approx)	(Approx)	(0-360)	Conditions	Instrument	Model No.
16:30	60'S	sunny		near calm		dry	OVM	580B
Sample	Depth	<b>-</b>	Type	Soil Descript		Sample	Container	PID
Number	Range	Time	(Grab/Comp.)	(color, grain size		Device	Size/Type	Reading
,				coarse; trace cobble	s up to 3.5-			
WS24117	0-3	16:35	Composite	inches; brown	dry.	Shovel	Four 4-ounce glass	15
For drill cutting	characteriza	tion of soils i	n Rolloff 2411	7 (Dayton 96)		<del> </del>		
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Rev.0	
April 22 1008	

# EPA Region 5 Records Ctr.

### 349847

				OHIO EPA TCLP REGULATORY					
ORIGIN	SAMPLE ID	DATESAMP	PARAMETER	LEVEL	RESULT	QUAL	UNITS	MATRIX	
	Press#18		Flash Point for Liquids		142		F	LIQUID	OTHER
	Press#18 Press#18	12/23/1999		 5	3.7 0.365		units MG/L	LIQUID LIQUID	OTHER TCLPMETALS
	Press#18	12/23/1999 12/23/1999		100	14.96		MG/L	LIQUID	TCLPMETALS
LIQUID FROM UST	Press#18	12/23/1999		1	0.035		MG/L	LIQUID	TCLPMETAL
NEAR PRESS#18,	Press#18	12/23/1999		5	277.5		MG/L	LIQUID	TCLPMETALS
BLDG 53	Press#18	12/23/1999		5	24.8		MG/L	LIQUID	TCLPMETAL
(LIQUID PUT IN	Press#18	12/23/1999		02	0.017		MG/L	LIQUID	TCLPMETAL
TANKER #261)	Press#18	12/23/1999	2-Butanone (MEK)	200	12437		MG/L	LIQUID	VOC
	Press#18	12/23/1999	4-Methyl-2-Pentanone	**	1235		MG/L	LIQUID	VOC
	Press#18		Ethyl benzene		441		MG/L	LIQUID	VOC
	Press#18	12/23/1999			591		MG/L	LIQUID	VOC
	Press#18		Xylene (Total)		6319 0.515		MG/L MG/L	LIQUID	VOC METALS
SOIL NEAR	Press#20 Press#20	12/23/1999		100 500 UG/L	6.16		UG/KG	SOLID	VOC
PRESS#20, BLDG 53		12/23/1999	Tetrachloroethene	700 UG/L	22.62		UG/KG	SOLID	VOC
1 NEGO#20, BEDO 00	Press#20		Xylene (Total)	700 GG/L	5.6		UG/KG	SOLID	VOC
BUILDING 50	11000,20	12201000	/ yiene (Total)						
SEPERATOR	WIPE001	12/10/1999	PCB-1254		0.37	j	UGMIPE	WIPE	PEST
-	WL0004	11/22/1999			9 .		UG/L	WATER	HERB
	WL0004	11/22/1999		100	0.225		MG/L	WATER	METALS
	WL0004		Cadmium TR	1	0.007		MG/L	WATER	METALS
	WL0004	11/22/1999		5	0.131		MG/L	WATER	METALS
	WL0004	11/22/1999			0.181		MG/L	WATER	METALS
	WL0004	11/22/1999		5	0.14		MG/L	WATER	METALS
	WL0004	11/22/1999		0.2	0.0004		MG/L	WATER	METALS
	WL0004 WL0004	11/22/1999	Selenium TR Silver TP	1 5	0.0049 . 0.0029 .		MG/L MG/L	WATER WATER	METALS METALS
	WL0004 WL0004	11/22/1999		5	5.42	,	MG/L	WATER	METALS
	WL0004 WL0004		Flash Point for Liquids			No Flash		WATER	OTHER
	WL0004	11/22/1999			7.71		•	WATER	OTHER
	WL0004	11/22/1999		20	5.24		UG/L	WATER	PEST
	WL0004	11/22/1999			32.9		UG/L	WATER	PEST
	WL0004	11/22/1999	2,4-Dimethylphenol		2 .	j	UG/L	WATER	SVOC
MANHOLE ON	WL0004	11/22/1999	2-Methylnaphthalene		1.		UG/L	WATER	SVOC
DOCK#2 OF	WL0004		Acenaphthene		3 .		UG/L	WATER	SVOC
BUILDING 40-A	WL0004	11/22/1999 /			3.		UG/L	WATER	SVOC
LIQUID PUT IN FRAC			Benzo(a)anthracene		5 .		UG/L	WATER	SVOC
4109, FIRST BATCH)	WL0004 WL0004		Benzo(a)pyrene Benzo(b)fluoranthene		4 . 5 .		UG/L UG/L	WATER WATER	SVOC SVOC
	WL0004		Benzo(g,h,i)perylene		4 3		UG/L	WATER	SVOC
	WL0004		Benzo(k)fluoranthene		4 3		UG/L	WATER	SVOC
	WL0004		ois(2-Ethylhexyl)phthalate		46		UG/L	WATER	SVOC
	WL0004	11/22/1999			4 J	ı	UG/L	WATER	SVOC
	WL0004	11/22/1999	Chrysene		8 J	l	UG/L	WATER	SVOC
	WL0004	11/22/1999 [	Dibenz(a,h)anthracene		1 J		UG/L	WATER	SVOC
	WL0004	11/22/1999			2 J	l	UG/L	WATER	SVOC
	WL0004		Diethylphthalate		15		UG/L		SVOC
	WL0004	11/22/1999 F			20		UG/L	WATER	SVOC
	WL0004 WL0004	11/22/1999 F	ndeno(1,2,3-cd)pyrene		4 J 3 J		UG/L UG/L	WATER WATER	SVOC SVOC
	WL0004		henanthrene		25		UG/L		SVOC
	WL0004	11/22/1999 F			15		UG/L		SVOC
	WL0004	11/22/1999 A			7 J		UG/L		VOC
	WL0005	11/23/1999 A	rsenic (furnace method)		1.21 J		MG/KG	OIL	METALS
	WL0005	11/23/1999 B			6.04 J		MG/KG		METALS
	WL0005	11/23/1999 C			0.69 J		MG/KG		METALS
	WL0005	11/23/1999 C			40		MG/KG		METALS
FREE-PRODUCT ,	WL0005 WL0005	11/23/1999 C		••	137		MG/KG		METALS
-ROMFRACIANK ,	WL0005	11/23/1999 L 11/23/1999 M			146 0.0378 J		MG/KG MG/KG		METALS METALS
י טכ לאוומיוטם) וטו אי	WL0005	11/23/1999 S			1.13 J		MG/KG		METALS
	WL0005	11/23/1999 Z			75		MG/KG		METALS
	WL0005		lash Point for Liquids				F		OTHER
,	WL0005		ol Metals Digestion		99.5		NO PRINT		OTHER
	NL0005	11/23/1999 p			6.2				OTHER
	NL0005	11/23/1999 P			260000		UG/KG		PEST
	NL0006	11/30/1999 2		1000	0.34 J		UG/L	WATER	HERB
	WL0006	11/30/1999 2,		10000	4.5 J				HERB
	VL0006	11/30/1999 A		5	0.062				METALS
	VL0006	11/30/1999 Ba		100	0.297				METALS
	VL0006	11/30/1999 C		1	0.041				METALS
			haa	E	0.135		MG/L	WATER !	METALS
V	VL0006	11/30/1999 C		5					
\ \	VL0006	11/30/1999 C	opper TR		1,16	1	MG/L	WATER I	METALS
\ \ \			opper TR ead TR			1	MG/L MG/L	WATER I	

				OHIO EPA TCLP REGULATORY					
ORIGIN	SAMPLE ID_	DATESAMP	PARAMETER	LEVEL	RESULT	QUAL	UNITS	MATRIX	
	WL0006		Flash Point for Liquids	-		No Flash	F	WATER	OTHER
	WL0006	11/30/1999			4.37		110#	WATER	OTHER
WASTE LIQUID	WL0006 WL0006	11/30/1999	1,2-Dichlorobenzene		57 16		UG/L UG/L	WATER WATER	PEST SVOC
ROM MANHOLE NE			1,4-Dichlorobenzene		1,	J	UG/L	WATER	SVOC
OF POLE E13D12 IN			2-Chloronaphthalene		29		UG/L	WATER	SVOC
BUILDING 40. VAC			2-Methylnaphthalene		4 .	J	UG/L	WATER	SVOC
RUCK DRAINED TO			bis(2-Ethylhexyl)phthalate		17		UG/L	WATER	SVOC
VASTE TREATMENT			Diethylphthalate		4.		UG/L	WATER	SVOC
S PER J. WHITLOCK			Naphthalene		10 .		UG/L UG/L	WATER	SVOC
	WL0006		N-Nitrosodiphenylamine Phenanthrene	 	2.		UG/L	WATER WATER	SVOC SVOC
	WL0006		1.1-Dichloroethane		260	•	UG/L	WATER	VOC
	WL0006		1,2-Dichloroethane	500	16 、	ì	UG/L	WATER	VOC
	WL0006		2-Butanone	200000	47		UG/L	WATER	VOC
	WL0006	11/30/1999	2-Hexanone		36 、	ı	UG/L	WATER	VOC
	WL0006	11/30/1999	Acetone		66 .	l	UG/L	WATER	VOC
	WL0006	11/30/1999	Chloroethane		22 .		UG/L	WATER	VOC
	WL0006		cis-1,2-Dichloroethene		15 J		UG/L	WATER	VOC
	WL0006		Tetrachloroethene	700	24 J		UG/L	WATER	VOC
	WL0006	11/30/1999		500	280		UG/L	WATER	VOC
	WL0006 WL0006		Trichloroethene Xylene (Total)	500 	35 38		UG/L UG/L	WATER WATER	VOC VOC
	WL0007	12/9/1999		5 MG/L	0.79 J		MG/KG	WATER	METALS
	WL0007	12/9/1999		100 MG/L	2.21		MG/KG	WATER	METALS
PRODUCT SAMPLE	WL0007	12/9/1999		5 MG/L	3.9 J		MG/KG	WATER	METALS
FROM BLDG 50 UMP, NEAR MIDDLE		12/9/1999	Copper		258		MG/KG	WATER	METALS
OF 50C (NOT PUT IN	WL0007	12/9/1999	Lead	5 MG/L	49		MG/KG	WATER	METALS
A FRAC)	WL0007	12/9/1999		0.2 MG/L	0.0053 J		MG/KG	WATER	METALS
,,,,,,,	WL0007	12/9/1999		5 MG/L	1.78 J		MG/KG	WATER	METALS
	WL0007	12/9/1999		<del></del>	33		MG/KG	WATER	METALS
	WL0008	12/9/1999			0.0166 J		UG/L	WATER	HERB
WATER SAMPLE	WL0008 WL0008	12/9/1999	2,4,5-1P Arsenic TR	1000	0,0275 J		UG/L MG/L	WATER	HERB
FROM PLANT/CITY	WL0008	12/9/1999		5 100	0.02 0.205		MG/L MG/L	WATER WATER	METALS METALS
STORM SEWER	WL0008		Copper TR		0.0725		MG/L	WATER	METALS
NTERSECTION AT	WL0008	12/9/1999		5	0.228		MG/L	WATER	METALS
VEBSTER ST. (NOT	WL0008	12/9/1999			0.982		MG/L	WATER	METALS
PUT IN A FRAC)	WL0008	12/9/1999	DDD		0.0078 J		UG/L	WATER	PEST
	WL0008	12/9/1999			0.0143 J		UG/L	WATER	PEST
	WL0009		Flash Point for Liquids		No Flash Observ	/ed	DEGREES		OTHER
	WL0009	1/7/2000 (			7.55			WATER	OTHER
	WL0009 WL0009		Barium TR Chromium TR	100	0.13 0.0054		MG/L	WATER	METALS
	WL0009		Copper TR	5 	0.0034		MG/L MG/L	WATER WATER	METALS METALS
	WL0009	1/7/2000 i		5	0.338		MG/L	WATER	METALS
	WL0009	1/7/2000 2			0.398		MG/L		METALS
	WL0009	1/7/2000		0.2	0.00033		MG/L	WATER	METALS
	WL0009	1/7/2000 H		8	0.0022 J		JG/L	WATER	PEST
	WL0009	1/7/2000 H	Heptachlor Epoxide	8	0.0087 J	ι	JG/L	WATER	PEST
	WL0009	1/7/2000 2			0.03 J		JG/L		HERB
	WL0009		Chloroform	6000	4 J		JG/L	_	VOC
HE LOCKERROOM : OF BLDG 40 (NOT	WL0009 WL0009		Bromodichloromethane		4 J		UG/L		VOC
•	WL0009 WL0009		Dibromochloromethane Bromoform		4 J 1 J		JG/L JG/L		VOC VOC
•	WL0009		Methylene Chloride		310				VOC
	WL0009		ris-1,2-Dichloroethene		200				VOC
1	WL0009	1/7/2000 T	richloroethene	500	37				VOC
	WL0009		etrachloroethene	700	5	Ų	JG/L	WATER	VOC
	WL0009		henanthrene		2 J				SVOC
	WL0009		luoranthene		3 1				SVOC
	WL0009 WL0009	1/7/2000 P			2 J				SVOC
	WL0009	1/7/2000 B	Benzo(a)anthracene		1 J 1 J				SVOC
	NL0009		lenzo(b)fluoranthene		1 J				SVOC SVOC
	WL0010	1/12/2000 p			9.18				OTHER
	WL0010		lethylene Chloride	 	120	ı.			VOC
	VL0010	1/12/2000 B		100	0.244				METALS
	VL0010	1/12/2000 C			0.0035 J				METALS
	VL0010	1/12/2000 Li		5	0.012				METALS
	VL0010	1/12/2000 Z			0.311				METALS
	VL0010	1/12/2000 2,		1000	0.02 J				HERB
FROM SLUDGE V	VL0010	1/12/2000 2			0.0203 J				HERB
RUMS FROM VAC	VL0010	1/12/2000 P			17 J				SVOC
TRUCKS V	VL0010	1/12/2000 N		••	4100				SVOC
· · · · · · · · · · · · · · · · · · ·	VL0010	1/12/2000 2-	Methylnaphthalene		120	- 11	G/L '	WATER :	SVOC
	VL0010	1/12/2000 H		8	0.04 J				PEST

				OHIO EPA TCLP REGULATORY				
ORIGIN	SAMPLE ID	DATESAMP	PARAMETER	LEVEL	RESULT QUA	AL UNITS	MATRIX	GROUP
	WL0010		Endosulfan i		0.166 J	UG/L	WATER	PEST
	WL0010 WL0010	1/12/2000 1/12/2000		 20	0.93 0.281 J	UG/L	WATER	PEST PEST
	WL0010 WL0010		Endosulfan II	20 	0.281 J	UG/L UG/L	WATER WATER	PEST
	WL0010		Endrin Aldehyde		0.47	UG/L	WATER	PEST
_	WL0011	1/12/2000			10.6	<u> </u>	WATER	OTHER
	WL0011	1/12/2000			320	UG/L	WATER	VOC
	WL0011 WL0011		2-Butanone (MEK) Trichloroethene	200000 500	76 3 J	UG/L UG/L	WATER WATER	VOC
	WL0011		4-Methyl-2-Pentanone		80	UG/L	WATER	VOC
	WL0011		2-Hexanone		10	UG/L	WATER	VOC
	WL0011		Xylene (Total)		3 J	UG/L	WATER	VOC
	WL0011	1/12/2000		100	0.0468	MG/L	WATER	METALS
	WL0011 WL0011	1/12/2000	Cadmium TR	1	0.0031 0.0241	MG/L MG/L	WATER WATER	METALS METALS
	WL0011	1/12/2000 1		5	0.127	MG/L	WATER	METALS
	WL0011	1/12/2000			5.74	MG/L	WATER	METALS
	WL0011	1/12/2000 I		0.2	0.00012 J	MG/L	WATER	METALS
WATER SAMPLE	WL0011	1/12/2000 (		5	0.0275 J	MG/L	WATER	METALS
FROM SLUDGE	WL0011 . WL0011	1/12/2000 2 1/12/2000 2		10000 1000	0.67 0.065	UG/L UG/L	WATER WATER	HERB HERB
DRUMS FROM VAC	WL0011		Gamma BHC - Lindane	400	0.003 0.0078 J	UG/L	WATER	PEST
TRUCKS.	WL0011		Heptachlor Epoxide	8	0.0134	UG/L	WATER	PEST
	WL0011	1/12/2000 E	Endosulfan i		0.0416	UG/L	WATER	PEST
	WL0011	1/12/2000			0.038	UG/L	WATER	PEST
	WL0011 WL0011	1/12/2000 8	Endrin Endosulfan II	20	0.0131 J 0.00 <del>9</del> 9 J	UG/L	WATER	PEST
	WL0011		Alpha Chlordane		0.0099 J 0.0072 J	UG/L UG/L	WATER WATER	PEST PEST
	WL0011		Endrin Aldehyde		0.0179 J	UG/L	WATER	PEST
	WL0011	1/12/2000 F			1100	UG/L	WATER	SVOC
	WL0011		2-Methylphenol		3 J	UG/L	WATER	SVOC
	WL0011		l-Methylphenol	••	750	UG/L	WATER	SVOC
	WL0011 WL0011	1/12/2000 2 1/12/2000 N	2,4-Dimethylphenoi		5 J 3 J	UG/L UG/L	WATER	SVOC
	WL0011		√-Nitrosodiphenylamine		3 J 2 J	UG/L	WATER WATER	SVOC SVOC
	WL0011		is(2-Ethylhexyl)phthalate		2 J	UG/L	WATER	SVOC
	WL0012	1/16/2000 2		1000	0.022 J	UG/L	WATER	HERB
	WL0012	1/16/2000 2		10000	0.287 J	UG/L	WATER	HERB
	WL0012 WL0012	1/16/2000 B 1/16/2000 L		100 5	0.0792 0.0091 J	MG/L MG/L	WATER WATER	METALS METALS
	WL0012	1/16/2000 Z			0.151	MG/L	WATER	METALS
WATER COLLECTED	WL0012		lash Point for Liquids		No Flash Observed	DEGREES		OTHER
FROM LUCILLE	WL0012	1/16/2000 p			7.19		WATER	OTHER
PUMP STATION.	WL0012 WL0012	1/16/2000 B			0.0063 J	UG/L	WATER	PEST
	WL0012 WL0012	1/16/2000 D 1/16/2000 E		-	0.0173 J 0.321	UG/L UG/L	WATER WATER	PEST PEST
	WL0012		leptachlor Epoxide	8	0.0064 J	UG/L	WATER	PEST
	WL0012		-Chloro-3-methylphenol		19	UG/L	WATER	SVOC
	WL0012	1/16/2000 2-		200000	26	UG/L	WATER	VOC
	WL0012	1/16/2000 A			150	UG/L	WATER	VOC
	WL2611 WL2611	12/20/1999 2, 12/20/1999 2,		1000	0.563	UG/L		HERB
	WL2611	12/20/1999 2,		1000	0.0471 J 1.86	UG/L UG/L	WATER WATER	HERB HERB
	WL2611	12/20/1999 Ba		100	0.175	MG/L	WATER	METALS
	WL2611	12/20/1999 C	admium TR	1	0.0063	MG/L	WATER	METALS
	WL2611	12/20/1999 Ci		5	0.214	MG/L	WATER	METALS
	WL2611 WL2611	12/20/1999 Co 12/20/1999 Le		 5	0.2 <b>04</b> 0.252	MG/L MG/L		METALS
	WL2611	12/20/1999 M		02	0.00321	MG/L MG/L		METALS METALS
	WL2611	12/20/1999 Si	iver TR	5	0.0021 J	MG/L		METALS
	WL2611	12/20/1999 Zii			0.962	MG/L	WATER	METALS
	WL2611	12/20/1999 PC			3.3	UG/L		PEST
	WL2611 WL2611		Chloronaphthalene Chloro-3-methhylphenol		3 J	UG/L		SVOC
	WL2611		enzo(a)anthracene		13 2 J			SVOC SVOC
	WL2611	12/20/1999 Be		~~	2 J			SVOC
261, WATER FROM	WL2611		nzo(b)fluoranthene		2 J			SVOC
LINE 40A-A	WL2611		nzo(g,h,ı)perylene		1 J	UG/L	WATER	SVOC
	WL2611		nzo(k)fluoranthene		1 J			SVOC
	WL2611 WL2611	12/20/1999 Ch 12/20/1999 Flu	•		2 J			SVOC
	WL2611		leno(1,2,3-cd)pyrene		5 J 1 J			SVOC SVOC
	WL2611	12/20/1999 Ph			1 J			SVOC SVOC
	WL2611	12/20/1999 Ph			130			SVOC
	WL2611	12/20/1999 Pyr			4 J			SVOC
	WL2611		.1-Trichloroethane		35			/OC
· · · · · · · · · · · · · · · · · · ·	WL2611	12/20/1999 1,1	-Dichloroethane		10	UG/L '	WATER \	/OC

				OHIO EPA TCLP REGULATORY				
ORIGIN	SAMPLE ID	DATESAMP	PARAMETER	LEVEL	RESULT QUA	L UNITS	MATRIX	GROUP
	WL2611		1,1-Dichloroethene	700	2 J	UG/L	WATER	VOC
	WL2611	12/20/1999			13 J	UG/L	WATER	VOC
	WL2611 WL2611		Methylene chloride Tetrachloroethene	 700	6 4 J	UG/L UG/L	WATER WATER	VOC VOC
	WL2611	12/20/1999			12	UG/L	WATER	VOC
	WL2611	12/20/1999	Trichloroethene	500	2 J	UG/L	WATER	VOC
	WL2611		Xylene (Total)		5 J	UG/L	WATER	VOC
	WL3191 WL3191		Arsenic TR Cadmium TR	5 1	0.0097 J 0.00145 J	MG/L MG/L	WATER WATER	METALS METALS
	WL3191	2/28/2000		100	0.241	MG/L	WATER	METALS
	WL3191		Copper TR		0.0168	MG/L	WATER	METALS
	WL3191	2/28/2000		5	0.018	MG/L	WATER	METALS
	WL3191	2/28/2000			0.27	MG/L	WATER	METALS
	WL3191 WL3191	2/28/2000	рн Alpha BHC		6.48 0.147 J	UG/L	WATER WATER	OTHER PEST
	WL3191	2/28/2000			0.083 J	UG/L	WATER	PEST
	WL3191	2/28/2000		8	0.084 J	UG/L	WATER	PEST
	WL3191	2/28/2000			240	UG/L	WATER	PEST
	WL3191		2-Methylnaphthalene		5 J	UG/L	WATER	SVOC
TANKER TRUCK	WL3191 WL3191		2-Chloronaphthalene 2-Methylphenol		1 J 9 J	UG/L UG/L	WATER WATER	SVOC SVOC
#319, WATER FROM		2/28/2000			2 J	UG/L	WATER	SVOC
INES IN SOUTH END	WL3191	2/28/2000	N-Nitrosodiphenylamine		9 J	UG/L	WATER	SVOC
OF BLDG 40.	WL3191		Phenanthrene		9 J	UG/L	WATER	SVOC
	WL3191		Fluoranthene		3 J	UG/L	WATER	SVOC
	WL3191 WL3191	2/28/2000	Pyrene Butylbenzylphthalate		3 J 4 J	UG/L UG/L	WATER WATER	SVOC SVOC
	WL3191	2/28/2000			240	UG/L	WATER	SVOC
	WL3191		2,4-Dimethylphenol		14	UG/L	WATER	SVOC
	WL3191	2/28/2000 1	Naphthalene		38	UG/L	WATER	SVOC
	WL3191		I-Methylphenol		300	UG/L	WATER	SVOC
	WL3191		ois(2-Ethylhexyl)phthalate	200000	12	UG/L	WATER	SVOC
	WL3191 WL3191	2/28/2000 2	cis-1,2-Dichloroethene	200000	93 J 1300	UG/L UG/L	WATER WATER	VOC VOC
	WL3191		richloroethene	500	1800	UG/L	WATER	VOC
	WL3191		Tetrachloroethene	700	22000	UG/L	WATER	VOC
	WL3191	2/28/2000 A			2600	UG/L	WATER	voc
	WL33511 WL33511	11/29/1999 2 11/29/1999 2		10000	3.1 185	UG/L UG/L	WATER	HERB
	WL33511	11/29/1999 E		100	0.0589	MG/L	WATER WATER	HERB METALS
	WL33511	11/29/1999		1	0.00111 J	MG/L	WATER	METALS
	WL33511	11/29/1999 (		5	0.0158 J	MG/L	WATER	METALS
	WL33511	11/29/1999			0.139	MG/L	WATER	METALS
	WL33511 WL33511	11/29/1999 L 11/29/1999 Z		5 	0.025 0.075	MG/L MG/L	WATER WATER	METALS
	WL33511		lash Point for Liquids		No Flash		WATER	METALS OTHER
	WL33511	11/29/1999 p	•		7.31	•	WATER	OTHER
	WL33511	11/29/1999 P			13.9	UG/L	WATER	PEST
	WL33511		-Methylphenol		5 J	UG/L	WATER	SVOC
FIRST SAMPLE, INSE WATER FROM	WL33511	11/29/1999 b 11/29/1999 P	is(2-Ethylhexyl)phthalate		5 J 2 J	UG/L	WATER	SVOC
UILDING 40 AND 50.		11/29/1999 P			3 J	UG/L UG/L	WATER WATER	SVOC SVOC
	WL33511		1,1-Trichloroethane		630	UG/L		VOC
	WL33511		1,2-Trichloroethane		5	UG/L		VOC
	WL33511		1-Dichloroethane		330	UG/L		VOC
	WL33511 WL33511	11/29/1999 1, 11/29/1999 2	1-Dichloroethene	700	3 J	UG/L		VOC
	WL33511	11/29/1999 Z		200000	10 22	UG/L UG/L		VOC VOC
	WL33511	11/29/1999 C		100000	2 J	UG/L		VOC
	WL33511		etrachloroethene	700	19	UG/L		VOC
	NL33511	11/29/1999 To			3 J	UG/L		Voc
	WL33511 WL33511	11/29/1999 Ti 11/29/1999 X		500	14	UG/L		VOC
	VL40J1	1/28/2000 pl		<del></del>	3 J 6.17	UG/L		VOC OTHER
	VL40J1	1/28/2000 P			92 <b>90</b>	UG/L		PEST
V	VL40J1	1/28/2000 2,		10000	53 J	UG/L		HERB
	VL40J1	1/28/2000 Di			18 J	UG/L		HERB
	VL40J1	1/28/2000 2,			4 J			HERB
	VL40J1	1/28/2000 Ph			4900			SVOC
	VL40J1 VL40J1	1/28/2000 4- 1/28/2000 Na			3800			SVOC
	VL40J1 VL40J1		ipritrialene Methylnaphthalene		1900 270 J			SVOC
	VL40J1	1/28/2000 Di			130 J			SVOC SVOC
٧	VL40J1	1/28/2000 Fli			240 J			SVOC
	VL40J1	1/28/2000 N-	Nitrosodiphenylamine		730			SVOC
V	VL40J1	1/28/2000 Ph	enanthrene		560			SVOC
QUID FROM VAULT V	4. 40.14	1/28/2000 An			59 J		WATER S	3,00

				OHIO EPA TCLP REGULATORY					
ORIGIN	SAMPLE ID	DATESAMP	PARAMETER	LEVEL	RESULT	QUAL	UNITS	MATRIX	
ON LINE 40J, BLDG	WL40J1		Fluoranthene		60		UG/L	WATER	SVOC
40 PUT INTO TANKER TRUCK 319.	WL40J1 WL40J1	1/28/2000	bis(2-Ethylhexyl)phthalate		130 - 240 -		UG/L UG/L	WATER WATER	SVOC SVOC
, , , , , , , , , , , , , , , , , , ,	WL40J1	1/28/2000		_	34000	•	UG/L	WATER	VOC
	WL40J1	1/28/2000	2-Butanone (MEK)	200000	980		UG/L	WATER	VOC
	WL40J1		4-Methyl-2-Pentanone		800		UG/L	WATER	VOC
	WL40J1 WL40J1	1/28/2000	Toluene Xylene (Total)		75 . 150	,	UG/L UG/L	WATER WATER	VOC VOC
	WL40J1		cis-1,2-Dichloroethene		600		UG/L	WATER	VOC
	WL40J1		Selenium TR	1	0.038	J	MG/L	WATER	METALS
	WL40J1		Barium TR	100	3.51		MG/L	WATER	METALS
	WL40J1		Cadmium TR	1	0.0071	J	MG/L	WATER	METALS
	WL40J1 WL40J1		Chromium TR Copper TR	5	0.167 0.114		MG/L MG/L	WATER WATER	METALS METALS
	WL40J1	1/28/2000	• •	5	0.06		MG/L	WATER	METALS
	WL40J1	1/28/2000		-	0.41		MG/L	WATER	METALS
	WL40K1	1/31/2000	•	**	8.35			WATER	OTHER
	WL40K1		Chloroethane		71		UG/L	WATER	VOC
	WL40K1 WL40K1	1/31/2000	2-Butanone (MEK)	200000 500	170 9		UG/L UG/L	WATER WATER	VOC VOC
	WL40K1		4-Methyl-2-Pentanone	300	230		UG/L	WATER	VOC
	WL40K1	1/31/2000	•		180		UG/L	WATER	VOC
	WL40K1	1/31/2000	Ethylbenzene		7		UG/L	WATER	VOC
	WL40K1		Xylene (Total)		41		UG/L	WATER	VOC
	WL40K1	1/31/2000		5	0.014		MG/L	WATER	METALS
	WL40K1 WL40K1	1/31/2000   1/31/2000	Barium ⊺R Chromium TR	100 5	5.34 0.0478		MG/L MG/L	WATER WATER	METALS METALS
LIQUID FROM PIPE	WL40K1	1/31/2000		02	0.0014 J	I	MG/L	WATER	METALS
ON LINE 40K, BLDG 40. PUT INTO	WL40K1	1/31/2000	•		0.346		MG/L	WATER	METALS
ANKER TRUCK 319.	WL40K1	1/31/2000	Silver TR	5	0.0089		MG/L	WATER	METALS
	WL40K1	1/31/2000			0.22		MG/L	WATER	METALS
	WL40K1 WL40K1	1/31/2000 3		10000	4.8 J		UG/L	WATER	HERB
	WL40K1	1/31/2000 1 1/31/2000 1		1000	1.02 J 0.92 J		UG/L UG/L	WATER WATER	HERB HERB
	WL40K1	1/31/2000 F			1100		UG/L	WATER	SVOC
	WL40K1		2-Methylphenol		37 J		UG/L	WATER	SVOC
	WL40K1	1/31/2000 4	4-Methylphenol	-	2700		UG/L	WATER	SVOC
	WL40K1		2,4-Dimethylphenol		38 J		UG/L	WATER	SVOC
	WL40K1 WL40K1		Naphthalene 2-Methylnaphthalene		36 J		UG/L	WATER	SVOC
	WL40K1	1/31/2000 E			64 J 874		UG/L UG/L	WATER WATER	SVOC PEST
<del></del>	WL41011	11/23/1999 2			0.101		UG/L		HERB
	WL41011	11/23/1999 2		10000	0.183 J		UG/L		HERB
	WL41011 WL41011	11/23/1999 [			0.26		UG/L		HERB
	WL41011	11/23/1999 E 11/23/1999 C		100 5	0.0628 0.032		MG/L MG/L		METALS METALS
	WL41011	11/23/1999			0.0126				METALS
•	WL41011	11/23/1999 L	ead TR	5	0.113				METALS
	WL41011	11/23/1999 S		5	0.0019 J				METALS
	WL41011	11/23/1999 Z			0.45				METALS
	WL41011 WL41011	11/23/1999 F	lash Point for Liquids ⊢		7. <b>43</b>	o Flash			OTHER OTHER
	WL41011		ndrin Aldehyde		0.173 J				PEST
	WL41011	11/23/1999 P	CB-1254		52.7				PEST
	WL41011		-Methylnaphthalene	-	5 J		UG/L		SVOC
	NL41011	11/23/1999 A			2 J				SVOC
1	WL41011 WL41011	11/23/1999 A 11/23/1999 B	inthracene enzo(a)anthracene		2 J 11				SVOC
RAC IANK ##101,	WL41011		enzo(a)pyrene		10				SVOC SVOC
	WL41011		enzo(b)fluoranthene	••	10				SVOC
BUILDING 50 \	WL41011	11/23/1999 B	enzo(g,h,i)perylene		6 J		UG/L		SVOC
PERATOR (MIXED V	VL41011		enzo(k)fluoranthene		10				SVOC
AALLULKEE-	VL41011 VL41011	11/23/1999 bi	s(2-Ethylhexyl)phthalate		5 J				SVOC
	VL41011		nrysene ibenz(a,h)anthracene	<del></del> 	14 2 J				SVOC SVOC
	VL41011	11/23/1999 D			1 J				SVOC
V	VL41011	11/23/1999 Fi			24				SVOC
	VL41011	11/23/1999 FI			2 J				SVOC
	VL41011		deno(1,2,3-cd)pyrene		5 J	U	JG/L \		SVOC
	VL41011	11/23/1999 No	•		1 J				SVOC
	VL41011 VL41011		-Nitrosodiphenylamine		1 J				SVOC
	VL41011	11/23/1999 Pt 11/23/1999 Py			17				SVOC
	VL41011	-	rene 1,1-Trichloroethane		22 3 J				SVOC VOC
	/L41011		1-Dichloroethane		8				/OC /OC
W	/L41011	11/23/1999 Ac			21				OC
	/L41011		i-1,2-Dichloroethene				JG/L V		

### DAYTON THERMAL PRODUCTS DAYTON, OHIO

### SEWER CLEANOUT SUMMARY OF POSITIVE DETECTIONS

				OHIO EPA TCLP REGULATORY					
ORIGIN	SAMPLE ID	DATESAMP	PARAMETER	LEVEL	RESULT	QUAL	UNITS	MATRIX	
	WL41011		Tetrachioroethene	700	9		UG/L	WATER	VOC
	WL41011 WL41011		Trichloroethene Vinyl Chloride	500 200	4 160	J	UG/L UG/L	WATER WATER	VOC
	WL41011		Xylene (Total)		4	J	UG/L	WATER	VOC
	WL49011	11/22/1999			0.0447	J	UG/L	WATER	HERB
	WL49011	11/22/1999		1000	0.0126		UG/L	WATER	HERB
	WL49011 WL49011	11/22/1999( 11/22/1999(		100	0.145 0.165	J	ug/l Mg/l	WATER WATER	
	WL49011		Cadmium TR	100	0.0391		MG/L	WATER	METALS
	WL49011	11/22/1999		5	0.06		MG/L	WATER	METALS
	WL49011	11/22/1999(		-	0.0413		MG/L	WATER	METALS
	WL49011	11/22/1999 (		5 1	0.428		MG/L MG/L	WATER	
	WL49011 WL49011	11/22/1999 \$		5	0.005 0.0032		MG/L	WATER WATER	
	WL49011	11/22/1999 2			45.2	•	MG/L	WATER	METALS
	WL49011	11/22/1999 F	Flash Point for Liquids	<del></del>		No Flash	F	WATER	OTHER
	WL49011	11/22/1999 p			7.4			WATER	OTHER
	WL49011 WL49011	11/22/1999 F			0.92 2		UG/L UG/L	WATER WATER	
	WL49011	11/22/1999 A	2-Methylnaphthalene Anthracene		2		UG/L	WATER	
	WL49011		Benzo(a)anthracene		6		UG/L	WATER	SVOC
	WL49011	11/22/1999 8	Benzo(a)pyrene		6		UG/L	WATER	SVOC
	WL49011		Benzo(b)fluoranthene		9 .		UG/L	WATER	SVOC
SOME CHILLER	WL49011 WL49011		Benzo(g,h,i)perylene Benzo(k)fluoranthene		4 .		UG/L UG/L	WATER WATER	
TOMASTE	WL49011		pis(2-Ethylhexyl)phthalate	 	2		UG/L	WATER	SVOC
TO WASTE PREATMENT AS PER		11/22/1999			7 .		UG/L	WATER	SVOC
JOE WHITLOCK)	VVL45011		Dibenz(a,h)anthracene		1.	J	UG/L	WATER	SVOC
•	WL49011 WL49011	11/22/1999 F 11/22/1999 F			11	,	UG/L UG/L	WATER WATER	
	WL49011		ndeno(1,2,3-cd)pyrene		5 .		UG/L	WATER	
	WL49011	11/22/1999 N			1.		UG/L	WATER	SVOC
	WL49011	11/22/1999 P			7.		UG/L	WATER	SVOC
	WL49011	11/22/1999 P			2 .	J	UG/L	WATER	
	WL49011 WL49011	11/22/1999 P	yrene ,1,1-Trichloroethane		10 3 .	,	UG/L UG/L	WATER WATER	
	WL49011		,1-Dichloroethane		14	•	UG/L	WATER	
	WL49011		-Butanone (MEK)	200000	5 J	J	UG/L	WATER	VOC
	WL49011	11/22/1999 A			10 J		UG/L	WATER	VOC
	WL49011 WL49011		is-1,2-Dichloroethene etrachloroethene	 700	5 25		UG/L	WATER	
	WL49011	11/22/1999 T		700	25 6		UG/L UG/L	WATER WATER	
	WL49011		richloroethene	500	6		UG/L	WATER	VOC
	WL49011	11/22/1999 X			11		UG/L	WATER	VOC
	WL41092 WL41092	12/13/1999 A 12/13/1999 B		5 100	0.0087 J		MG/L	WATER	
	WL41092 WL41092	12/13/1999 C		1	0.07 <b>78</b> 0.007		MG/L MG/L	WATER WATER	
	WL41092	12/13/1999 C		5	0.0171 J		MG/L		
	WL41092	12/13/1999 C	opper TR		0.201		MG/L		
	WL41092	12/13/1999 Le		5	0.264		MG/L		
	WL41092 WL41092	12/13/1999 M 12/13/1999 Zi		0.2	0.00021 0.456		MG/L MG/L		
	WL41092	12/13/1999 2,			0.0361 J		UG/L		
	WL41092	12/13/1999 2,		1000	0.474		UG/L		
FRAC TANK #4109, FIRST SAMPLE, WATER FROM BUILDING 50 AND 53, SOME CHILLER WATER (EMPTIED TO WASTE TO WASTE TO WASTE TO WASTE TREATMENT AS PER V V V V V V V V V V V V V V V V V V V	WL41092	12/13/1999 2,		10000	0.205 J		UG/L	WATER	HERB
	WL41092 WL41092	12/13/1999 PO	CB-1254 2-Dichlorobenzene		5.2		UG/L		
	WL41092	12/13/1999 1.			1 J 2 J		UG/L UG/L		
RAC TANK #4109,	WL41092		enzo(a)anthracene		1 1				
	WL41092	12/13/1999 bis	s(2-Ethylhexyl)phthalate		2 J	ι	JG/L	WATER	
		12/13/1999 CH			1 J				
	WL41092 WL41092	12/13/1999 Di 12/13/1999 Fid	• •		3 J 1 J				
	NL41092	12/13/1999 Ph			3 J				
	WL41092	12/13/1999 Py			3 J				
	WL41092		1,1-Trichloroethane		60	Į	JG/L	WATER	VOC
	VL41092		1-Dichloroethane	 700	16				
FIRST SAMPLE, WATER FROM UILDING 50 AND 53, SOME CHILLER WATER (EMPTIED TO WASTE REATMENT AS PER JOE WHITLOCK)  RAC TANK #4109, ECOND SAMPLE, ASH WATER FROM LDG'S 40 AND 53.	VL41092 VL41092		I-Dichloroethene Butanone (MEK)	700 20000	2 J				
	VL41092 VL41092	12/13/1999 2-E		200000	7 J 24				
	VL41092 VL41092	12/13/1999 Ch		6000	24 1 J				
V	VL41092	12/13/1999 Me	thylene chloride	**	12				
	VL41092	12/13/1999 Tel	trachloroethene	700	7	L	JG/L	WATER \	/OC
	VL41092	12/13/1999 Tol			29				
SOME CHILLER NATER (EMPTIED TO WASTE REATMENT AS PER JOE WHITLOCK)  RAC TANK #4109, ECOND SAMPLE, SH WATER FROM D.DG'S 40 AND 53.	VL41092 VL41092	12/13/1999 Trii 12/13/1999 Xyl		500 	4 J 9				
· · · · · · · · · · · · · · · · · · ·		147 SEELEL OF	ene (Tutar)		y	u	10/L \	NATER \	VOC HERB HERB HERB METALS METALS METALS METALS METALS METALS METALS METALS METALS METALS SVOC SVOC SVOC SVOC SVOC SVOC SVOC SVO

### DAYTON THERMAL PRODUCTS DAYTON, OHIO

### SEWER CLEANOUT SUMMARY OF POSITIVE DETECTIONS

				OHIO EPA TCLF REGULATORY	•				
ORIGIN	SAMPLE ID	DATESAMP	PARAMETER	LEVEL	RESULT (	QUAL	UNITS		
	WL41141	12/20/1999		1000	0.345		UG/L	WATER	HERB
	WL41141	12/20/1999		10000					HERB HERB METALS METALS METALS METALS METALS METALS METALS METALS PEST SVOC VOC VOC VOC VOC VOC HERB HERB HERB HERB HERB METALS
	WL41141	12/20/1999		100 1		0.345			
FRAC TANK #4114, FIRST SAMPLE, WATER FROM BLDG 40 SUMP AND LINE 40E.  FRAC TANK 4117, FIRST SAMPLE, WATER FROM BLDG 40 FIRELINE AND CYSTERN, AND LINE 40A-A  SOLDER SAMPLE FROM LINE 50C  SLUDGE SAMPLE FROM DRUMS FROM VAC TRUCKS  LUDGE FROM PIPE ON LINE 40I, BLDG 10 RINSE WATER PUT INTO TANKER	WL41141 WL41141	12/20/1999	Cadmium TR Copper TR						
	WL41141	12/20/1999		5					
FRAC TANK #4114.		12/20/1999		0.2					
	WL41141	12/20/1999							
WATER FROM BLDO	WL41141	12/20/1999	PCB-1254		2.19 J		UG/L	WATER	
			2-Chloronaphthalene						
FIRST SAMPLE, WATER FROM BLD 40 SUMP AND LINI 40E.  FRAC TANK 4117, FIRST SAMPLE, WATER FROM BLD 40 FIRELINE AND CYSTERN, AND LIN 40A-A  SOLDER SAMPLE FROM LINE 50C  SLUDGE SAMPLE ROM DRUMS FROM	WL41141		1,1,1-Trichloroethane						
	WL41141		1,1-Dichloroethene	700					
	WL41141		1,1-Dichloroethane	200000	-				
	WL41141 WL41141	12/20/1999	2-Butanone (MEK)	200000					
	WL41141		Methylene chloride	_					
	WL41141		Tetrachloroethene	700	_				
FRAC TANK #4114, FIRST SAMPLE, WATER FROM BLDX 40 SUMP AND LINE 40E.  FRAC TANK 4117, FIRST SAMPLE, MATER FROM BLDQ 40 FIRELINE AND CYSTERN, AND LINE 40A-A  SOLDER SAMPLE FROM LINE 50C  SLUDGE SAMPLE ROM DRUMS FROM	WL41141		Trichloroethene	500					
	WL41171	1/6/2000		10000					HERB
	WL41171	1/6/2000		1000	0.26 J		UG/L	WATER	HERB
	WL41171	1/6/2000	Dinoseb		0.98 J		UG/L		
	WL41171	1/6/2000	• •						
	WL41171		Arsenic TR	5					
	WL41171		Chromium	5					
	WL41171		Barium TR						
EDAC TANK 4117	WL41171		Cadmium TR						
	WL41171 WL41171	1/6/2000 (	Copper TR						
		1/6/2000 3							
	WL41171	1/6/2000 2							
		1/6/2000 1							
	WL41171		Flash Point for Liquids						
	WL41171	1/6/2000 p							
	WL41171	1/6/2000 F	PCB-1254		370 J		UG/L	WATER	
	WL41171	1/6/2000 [	DDT		83		UG/L	WATER	PEST
	WL41171	1/6/2000 b	ois(2-Ethylhexyl)phthalate		830 J		UG/L	WATER	SVOC
	WL41171		Butylbenzylphthalate						
	WL41171		is-1,2-Dichloroethene						
	WL41171	1/6/2000 2							
	WL41171	1/6/2000 A							
	WS00002 TCLP NVE WS00002 TCLP NVE	12/5/1999 A 12/5/1999 E							
SOLDER SAMPLE	WS00002 TCLP NVE		Cadmium TR						
	WS00002 TCLP NVE	12/5/1999 L							
	WS00002 TCLP NVE	12/5/1999 5							
	WS00002 TCLP NVE	12/5/1999 Z							
	WS00003	1/11/2000 N	foisture		16.6		% BY WT.	SLUDGE	OTHER
	WS00003	1/11/2000 p		10000					
	WS00003	1/11/2000 lg			Did Not Ignite			SLUDGE	OTHER
	WS00003	1/11/2000 P	· <del>-</del> - ·						
FIRST SAMPLE, WATER FROM BLDG 40 FIRELINE AND CYSTERN, AND LINE 40A-A  SOLDER SAMPLE FROM LINE 50C  SLUDGE SAMPLE ROM DRUMS FROM VAC TRUCKS			-Methylphenol						
•AO INDONO	WS00003 TCLP NVE WS00003 TCLP NVE	1/11/2000 S		1					
	WS00003 TCLP NVE	1/11/2000 B 1/11/2000 C							
	WS00003 TCLP NVE	1/11/2000 Z							
	WS40I2	1/31/2000 p				<u>.</u>			HERB HERB METALS METALS METALS METALS METALS METALS PEST SVOC VOC VOC VOC VOC HERB HERB HERB HERB HERB HERB HERB METALS M
	WS40I2	1/31/2000 N				ι			
	WS4012		Methylnaphthalene						
	WS4012	1/31/2000 A	cenaphthylene						
	WS40I2	1/31/2000 A	,						
	WS4012	1/31/2000 D							
	WS40I2	1/31/2000 FI							
	WS4012 WS4012	1/31/2000 PI 1/31/2000 Ai							
	WS4012 WS4012		ntnracene i-n-butylphthalate						
	WS4012 WS4012	1/31/2000 Ft							
	WS4012	1/31/2000 Pt							
	WS4012		enzo(a)anthracene						
UDGE FROM PIPE	WS40I2		s(2-Ethylhexyl)phthalate						
N LINE 401, BLDG	WS40I2	1/31/2000 CI		 	5000				
RINSE WATER	WS4012		enzo(b)fluoranthene		5700				
UT INTO TANKER	WS40I2		enzo(k)fluoranthene		2500 J				
	WS40I2		enzo(a)pyrene		4100 J				
	WS40I2	1/31/2000 Tr		500 UG/L	64000 <b>0</b>				
	NS4012		trachloroethene	700 UG/L	320 <b>00000</b>				voc
	NS4012	1/31/2000 cis	-1,2-Dichloroethene		51000				/OC
	NS4012	1/31/2000 Ar			31000	U	Sing ,	SLUDGE \	<b>7</b> 00

#### DAYTON THERMAL PRODUCTS DAYTON, OHIO

### SEWER CLEANOUT SUMMARY OF POSITIVE DETECTIONS

				OHIO EPA TCLP REGULATORY					
ORIGIN	SAMPLE ID	DATESAMP	PARAMETER	LEVEL	RESULT	QUAL	UNITS	MATRIX	GROUP
	WS40I2		Barium TR	100 MG/L	220		MG/KG	SLUDGE	
	WS40I2		Copper TR		921		MG/KG	SLUDGE	
	WS4012 WS4012	1/31/2000	Chromium	5 MG/L 5 MG/L	601 94,2		MG/KG MG/KG		
	WS4012	1/31/2000		0.2 MG/L	0.1 <del>9</del>		MG/KG	SLUDGE	
	WS40I2	1/31/2000		5 MG/L	1.07 J	I	MG/KG		
	WS40I2	1/31/2000	Selenium TR	1 MG/L	23.4		MG/KG	SLUDGE	METALS
	WS40I2	1/31/2000			1150		MG/KG	SLUDGE	
	WS40I2	1/31/2000			51000		UG/KG	SLUDGE	
	WS21368 WS21368	2/12/2000 2/12/2000			0.58 J 13.4		UG/KG % BY WT	SOIL	
ROLLOFF # 21368	WS21368	2/12/2000			7.8 <b>5</b>		70 DI WI	SOIL	
SOILS FROM BLDG		2/12/2000			320		UG/KG	SOIL	PEST
40, SAWCUT 40A2	WS21368 TCLP NVE	2/12/2000	Barium TR	100	0.488		MG/L	SOIL	TCLPMETALS
(LOCKERROOM)	WS21368 TCLP NVE	2/12/2000			0.0066		MG/L	SOIL	TCLPMETALS
	WS21368 TCLP NVE		Selenium TR	1	0.0055 J		MG/L	SOIL	
	WS21368 TCLP NVE	2/12/2000			0.064		MG/L	SOIL	
	WS34120 WS34120	2/12/2000 2/12/2000		 	0.65 J 5.92		UG/KG % BY WT	SOIL	
	W\$34120	2/12/2000		 	9.27		A0 151 WW 1	SOIL	
5011055 #51105	WS34120	2/12/2000			1.14 J		UG/KG	SOIL	
	WS34120		Endrin Aldehyde		0.71 J		UG/KG	SOIL	PEST
	WS34120 TCLP NVE	2/12/2000	Barium TR	100	2.59		MG/L	SOIL	TCLPMETALS
	WS34120 TCLP NVE		Cadmium TR	1	0.009		MG/L	SOIL	TCLPMETALS
	WS34120 TCLP NVE	2/12/2000			0.179		MG/L	SOIL	
ROLLOFF # 21368 SOILS FROM BLDX 40, SAWCUT 40A2 (LOCKERROOM)  ROLLOFF # 34120 SOILS FROM SAWCUTS IN BLDX 40.  ROLLOFF # 35413, SOILS FROM SAWCUT IN BLDG 5  ROLLOFF # 35413, SOILS FROM SAWCUTS IN BLDG 53 AND 40.  ROLLOFF # 40730, SOILS FROM SAWCUT IN BLDG 50  ROLLOFF # 40730, SOILS FROM SAWCUT IN BLDG 50  ROLLOFF # 40730, SOILS FROM SAWCUT IN BLDG 50	WS34120 TCLP NVE WS34120 TCLP NVE	2/12/2000	Lead IR Selenium TR	5 1	0.17 0.0065 J		MG/L MG/L	SOIL SOIL	
	WS34120 TCLP NVE	2/12/2000		!	1.72		MG/L	SOIL	METALS TOLPMETAL TOLPWOC TOLPVOC TOLP
	WS34121	2/12/2000			5.5		% BY WT.	SOIL	
POLLOFE # 3/121	WS34121	2/12/2000 (			8.14			SOIL	
	WS34121	2/12/2000			123		UG/KG	SOIL	
SAWCUT IN BLDG 50	WS34121 TCLP NVE	2/12/2000 (		100	0.271		MG/L	SOIL	TCLPMETALS
	WS34121 TCLP NVE WS34121 TCLP NVE	2/12/2000 ( 2/12/2000 2		 	0.00 <del>5</del> 0.0077 J		MG/L MG/L	SOIL SOIL	
	WS35413		2,4,5-TP (Silvex)	1 MG/L	0.0077 J		UG/KG	SOIL	
	WS35413	2/12/2000 1			8.27		% BY WT	SOIL	
	WS35413	2/12/2000			8.8			SOIL	
ROLLOFF # 35413,	WS35413	2/12/2000	PCB-1254		720		UG/KG	SOIL	PEST
	WS35413 TCLP NVE	2/12/2000 E		100	0.866		MG/L	SOIL	TCLPMETALS
			Cadmium TR	1	0.0073		MG/L	SOIL	
53 AND 40.	WS35413 TCLP NVE WS35413 TCLP NVE	2/12/2000 ( 2/12/2000 (		5	0.273		MG/L	SOIL	
	WS35413 TCLP NVE	2/12/2000 2		J	0.166 1.8		MG/L MG/L	SOIL SOIL	
	WS35413 TCLP NVE		4-Dinitrotoluene	1 MG/L	0.002 J		MG/L	SOIL	
	VS40730	2/12/2000 2	2,4,5-T		0.79 J		UG/KG		
	WS40730	2/12/2000 N		_	9.28		% BY WT.	SOIL	OTHER
	WS40730	2/12/2000 p			7.64			SOIL	
	WS40730 WS40730 TCLP NVE	2/12/2000 F 2/12/2000 E		100	310		UG/KG		
ROLLOFF # 40730	WS40730 TCLP NVE		Cadmium TR	100	0.875 0.00128 J		MG/L MG/L		
	WS40730 TCLP NVE	2/12/2000			0.0215		MG/L		
SAWCUT IN BLDG 50.	WS40730 TCLP NVE	2/12/2000 L	ead TR	5	0.475		MG/L		
	WS40730 TCLP NVE	2/12/2000 S		1	0.005 J		MG/L	SOIL	TCLPMETALS
	WS40730 TCLP NVE	2/12/2000 Z			0.134		MG/L		
	WS40730 TCLP ZHE WS40730 TCLP ZHE		hlorobenzene etrachloroethene	100	0.029		MG/L		
	WS40730 TCLP ZHE		richloroethene	0.7 0.5	0.0062 J 0.006 J				
	WS42176	2/12/2000 2			0,42 J				
	WS42176		4,5-TP (Silvex)	1 MG/L	0.51 J				
	WS42176	2/12/2000 M			9.89	9	% BY WT.		
	WS42176	2/12/2000 p			8.37			SOIL	OTHER
POLLOEE # 42476	WS42176	2/12/2000 D			0.77 J				
	WS42176 WS42176	2/12/2000 D 2/12/2000 E		20 UG/I	2.99 J				
AWCUTS IN BLDG'S			narin ndrin Aldehyde	20 UG/L 	1.14 J 0.95 J				
	WS42176 TCLP NVE	2/12/2000 B	•	100	3.66				
	WS42176 TCLP NVE	2/12/2000 C	admium TR	1	0.0475				
	WS42176 TCLP NVE	2/12/2000 C	opper TR		0.607				
	WS42176 TCLP NVE	2/12/2000 Le		5	8.07				
	WS42176 TCLP NVE	2/12/2000 Zi			5.5			SOIL 1	CLPMETALS
	WS42176 TCLP ZHE		ichloroethene	0.5	0.0055 J				
	WS44182 WS44182	2/12/2000 Mi 2/12/2000 ph			7.2	%			
	WS44182	2/12/2000 pr			7.72				
RULLUFF # 44182,	WS44182 TCLP NVE	2/12/2000 Pd		100	6.5 J 0.479				
	WS44182 TCLP NVE	2/12/2000 Ca		1	0.001 J				CLPMETALS CLPMETALS
AWOUT IN BLDG 50	AADAA OF LOCK LAAF	2122000 0	Administra in	l l					

### DAYTON THERMAL PRODUCTS DAYTON, OHIO

### SEWER CLEANOUT SUMMARY OF POSITIVE DETECTIONS

				OHIO EPA TCLP REGULATORY				
ORIGIN	SAMPLE ID	DATESAMP	PARAMETER	LEVEL	RESULT QUA	L UNITS	MATRIX	GROUP
	WS44182 TCLP NVE	2/12/2000		5	0.0096 J	MG/L	SOIL	
	WS44182 TCLP NVE	2/12/2000			0.097 1.77 J	MG/L UG/KG	SOIL	GOIL TCLPMETALS GOIL TCLPMETALS GOIL HERB GOIL OTHER GOIL OTHER GOIL PEST GOIL PEST GOIL PEST GOIL PEST GOIL TCLPMETALS GOIL TCLPMETALS GOIL TCLPMETALS GOIL TCLPMETALS GOIL TCLPMETALS GOIL TCLPMETALS GOIL TCLPMETALS GOIL TCLPWOC GOIL OTHER GOIL OTHER GOIL OTHER GOIL OTHER GOIL TCLPMETALS GOIL TCLPWOC GOIL GOTHER GOIL TCLPWOC GOIL GOTHER GOIL GO
	WS44184 WS44184	2/12/2000	-1.11		1.// J 9	% BY WT		
	WS44184	2/12/2000			8.03	70 0 1 11 1	SOIL	
	WS44184	2/12/2000			18	UG/KG	SOIL	
	WS44184				6.8 J	UG/KG	SOIL	
							_	
			•				SOIL	
40.	WS44184 TCLP NVE			1	0.0045	MG/L	SOIL	
	WS44184 TCLP NVE				0.0461	MG/L	SOIL	
							SOIL	
			-				SOIL	
				0.5	0.0088 J	MG/L	SOIL	
	WS44188	2/12/2000	Moisture		6.02	% BY WT		
	WS44188						SOIL	
ROLLOFF # 44188,								
	WEATING TO DINVE						SOIL	
SAWCUT IN BLDG 53	WS44188 TCLP NVE			100	0.927	MG/L	SOIL	
	WS44188 TCLP NVE				0.0055	MG/L	SOIL	
				<del></del>			SOIL	
SLUDGE SAMPLE						F		
						MG/L	SLUDGE	
				5	0.063	MG/L		
SEPERATOR (NOT	40SS			0.7	0.139	MG/L		
PCB 5)							SLUDGE	
LINE 40C AND DI DC			<del></del>		5.2	1110/12	WATER	
	40SL			0.7	0.328	MG/L	WATER	TCLPVOC
SEPERATOR	40SL			0.7	12.8 >	MG/L	WATER	
LIQUIDS AND RINSE WATER (NOT ANALYZED FOR	40SL	4/25/2000	Trichloroethene	0.5	2.88 >	MG/L	WATER	TCLPVOC
PCB'S)	40SL	4/25/2000	Vinyl Chloride	0.2	11.4 >	MG/L	WATER	TCLPVOC
	WL40J2	5/18/2000	pH		6.84		LIQUID	OTHER
	WL40J2			0.2	0.00013 J	MG/L	LIQUID	
							LIQUID	
							LIQUID	
	WL40J2			5	0.0253 J		LIQUID	
	WL40J2			1	0.0116	MG/L	LIQUID	
					0.176	MG/L	LIQUID	
ROLLOFF # 44184, SOILS FROM SAWCUTS IN BLDG 40.  ROLLOFF # 44188, SOILS FROM SAWCUT IN BLDG 53  SLUDGE SAMPLE FROM LINE 40G AND THE BLDG 40 SOUTH SEPERATOR (NOT ANALYZED FOR PCB'S)  LINE 40G AND BLDG 40 SOUTH SEPERATOR LIQUIDS AND RINSE WATER (NOT ANALYZED FOR PCB'S)  LIQUID FROM SUMP ON THE NORTH END OF LINE 40J  RINSE WATER FROM LINE 40J  RINSE WATER FROM LINE 40J  RINSE WATER FROM LINE 40J  RINSE WATER FROM LINE 40J  RINSE WATER FROM LINE 40J  RINSE WATER FROM LINE 40J  RINSE WATER FROM LINE 40J  RINSE WATER FROM LINE 40J				5		MG/L	LIQUID	
							LIQUID LIQUID	
				10 MG/L			LIQUID	DIL TCLPMETALS DIL HERB DIL OTHER DIL PEST DIL PEST DIL PEST DIL PEST DIL PEST DIL PEST DIL PEST DIL TCLPMETALS DIL METALS DIL ME
	WL40J2	5/18/2000 2	2,4,5-TP	1 MG/L	0.23 J	UG/L	LIQUID	
	LOFF #44184   W344184		LIQUID					
	VVL4UJZ	3/18/2000 F			290 J		LIQUID	
	WL40 I2	5/18/2000 P			4700 I			
							LIQUID	
	WL40J2 Line40l	5/18/2000 A	Acetone	<del></del>	3200	UG/L		
RINSE WATER FROM	WL40J2 Line40l Line40l	5/18/2000 A 3/5/2000 Ig 3/5/2000 p	Acetone gnitibility oH		3200 212 > 7.4	UG/L	WATER	OTHER
RINSE WATER FROM LINE 401	WL40J2 Line40l Line40l Line40l	5/18/2000 A 3/5/2000 Ig 3/5/2000 p 3/5/2000 T	Acetone gnitibility oH Tetrachloroethene	  700	3200 212 > 7.4 24950	UG/L F STANDARI UG/L	WATER WATER WATER	OTHER OTHER TCLPVOC
RINSE WATER FROM LINE 401	WL40J2 Line40l Line40l Line40l Line40l	5/18/2000 A 3/5/2000 Ig 3/5/2000 F 3/5/2000 T 3/5/2000 T	Acetone gnitibility oH Fetrachloroethene Frichloroethene	700 500	3200 212 > 7.4 24950 1640	UG/L F STANDARI UG/L UG/L	WATER WATER WATER WATER	OTHER OTHER TCLPVOC TCLPVOC
RINSE WATER FROM LINE 401	WL40J2 Line40l Line40l Line40l Line40l Line40J	5/18/2000 / 3/5/2000   3/5/2000   3/5/2000   3/5/2000	Acetone gnitibility H4 Fetrachloroethene richloroethene gnitibility	700 500	3200 212 > 7.4 24950 1640 212 >	UG/L F STANDARI UG/L UG/L F	WATER WATER WATER WATER	OTHER OTHER TCLPVOC TCLPVOC OTHER
RINSE WATER FROM LINE 401 RINSE WATER FROM	WL40J2 Line40l Line40l Line40l Line40l Line40J Line40J	5/18/2000 / 3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000	Acetone gnitibility bH Getrachloroethene richloroethene gnitibility bH	700 500 	3200 212 > 7.4 24950 1640 212 > 7.3	UG/L F STANDARI UG/L UG/L F STANDARI	WATER WATER WATER WATER WATER WATER	OTHER OTHER TCLPVOC TCLPVOC OTHER OTHER
RINSE WATER FROM LINE 401 RINSE WATER FROM LINE 40J	WL40J2 Line40l Line40l Line40l Line40l Line40J Line40J Line40J Line40J Line40J	5/18/2000 / 3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000	Acetone gnitibility H fetrachloroethene richloroethene gnitibility H fetrachloroethene	700 500   700	3200 212 > 7.4 24950 1640 212 > 7.3 344	UG/L F STANDARI UG/L UG/L F STANDARI UG/L	WATER WATER WATER WATER WATER WATER WATER WATER	OTHER OTHER TCLPVOC TCLPVOC OTHER OTHER TCLPVOC
RINSE WATER FROM LINE 401 RINSE WATER FROM LINE 40J	WL40J2 Line40l Line40l Line40l Line40l Line40J Line40J Line40J Line40J Line40J Line40J	5/18/2000 / 3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000	Acetone gnitibility H Tetrachloroethene Inchloroethene gnitibility H Tetrachloroethene inchloroethene inchloroethene gnitibility	700 500  700 500	3200 212 > 7.4 24950 1640 212 > 7.3 344 187 212 >	UG/L F STANDARI UG/L UG/L F STANDARI UG/L UG/L UG/L	WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER	OTHER OTHER TCLPVOC TCLPVOC OTHER TCLPVOC TCLPVOC TCLPVOC OTHER
RINSE WATER FROM LINE 401 RINSE WATER FROM LINE 40J	WL40J2 Line40l Line40l Line40l Line40J Line40J Line40J Line40J Line40J Line40K Line40K	5/18/2000 / 3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000   3/5/2000	Acetone gnitibility H Fetrachloroethene richloroethene gnitibility H fetrachloroethene richloroethene jnitibility H H H H H H H H H H H	700 500   700 500	3200 212 > 7.4 24950 1640 212 > 7.3 344 187 212 > 7.2	UG/L F STANDARI UG/L UG/L F STANDARI UG/L UG/L UG/L F STANDARI	WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER	OTHER OTHER TCLPVOC TCLPVOC OTHER OTHER TCLPVOC TCLPVOC OTHER OTHER
RINSE WATER FROM LINE 401 RINSE WATER FROM LINE 40J	WL40J2 Line40l Line40l Line40l Line40J Line40J Line40J Line40J Line40J Line40K Line40K Line40K Line40K	5/18/2000 / 3/5/2000   3/5/2000	Acetone gnitibility H Getrachloroethene richloroethene gnitibility H etrachloroethene richloroethene gnitibility H etrachloroethene gnitibility H etrachloroethene	700 500  700 500  700	3200 212 > 7.4 24950 1640 212 > 7.3 344 187 212 > 7.2 566	UG/L F STANDARI UG/L UG/L F STANDARI UG/L UG/L F STANDARI UG/L F STANDARI UG/L	WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER	OTHER OTHER TCLPVOC TCLPVOC OTHER OTHER TCLPVOC TCLPVOC OTHER OTHER OTHER OTHER
RINSE WATER FROM LINE 401 RINSE WATER FROM LINE 40J RINSE WATER FROM LINE 40K	WL40J2 Line40l Line40l Line40l Line40l Line40J Line40J Line40J Line40J Line40K Line40K Line40K Line40K	5/18/2000 / 3/5/2000   3/5/2000	Acetone gnitibility H Getrachloroethene richloroethene gnitibility H etrachloroethene frichloroethene gnitibility H etrachloroethene gnitibility H etrachloroethene	700 500   700 500	3200 212 > 7.4 24950 1640 212 > 7.3 344 187 212 > 7.2	UG/L F STANDARI UG/L UG/L F STANDARI UG/L UG/L F STANDARI UG/L UG/L UG/L UG/L UG/L UG/L	WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER	OTHER OTHER TCLPVOC TCLPVOC OTHER TCLPVOC TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC TCLPVOC
RINSE WATER FROM LINE 401  RINSE WATER FROM LINE 40J  RINSE WATER FROM LINE 40K	WL40J2 Line40l Line40l Line40l Line40l Line40J Line40J Line40J Line40J Line40K Line40K Line40K Line40K DC001	5/18/2000 / 3/5/2000   3/5/2000   5/5/2000	Acetone gnitibility H Tetrachloroethene Finchloroethene gnitibility H Tetrachloroethene Finchloroethene gnitibility H Tetrachloroethene gnitibility H Tetrachloroethene gnitibility H Tetrachloroethene gnitibility H Tetrachloroethene	700 500   700 500   700 500	3200 212 > 7.4 24950 1640 212 > 7.3 344 187 212 > 7.2 566 198	UG/L F STANDARI UG/L UG/L F STANDARI UG/L UG/L F STANDARI UG/L UG/L UG/L UG/L UG/L UG/L	WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER	OTHER OTHER TCLPVOC TCLPVOC OTHER TCLPVOC TCLPVOC OTHER OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC TCLPVOC TCLPVOC TCLPVOC TCLPVOC TCLPVOC
RINSE WATER FROM LINE 40!  RINSE WATER FROM LINE 40J  RINSE WATER FROM LINE 40K	WL40J2 Line40l Line40l Line40l Line40J Line40J Line40J Line40J Line40K Line40K Line40K Line40K DC001 DC001	5/18/2000 / 3/5/2000   3/5/2000   5/9/2000   5/9/2000   5/9/2000	Acetone gnitibility H Fetrachloroethene gnitibility H Fetrachloroethene gnitibility H Fetrachloroethene gnitibility H Fetrachloroethene gnitibility H Fetrachloroethene gnitibility H Fetrachloroethene gnitibility H Fetrachloroethene	700 500 	3200 212 > 7.4 24950 1640 212 > 7.3 344 187 212 > 7.2 566 198 212 > 6.2 0.103	UG/L F STANDARI UG/L UG/L F STANDARI UG/L F STANDARI UG/L F STANDARI UG/L F STANDARI	WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER	OTHER OTHER TCLPVOC TCLPVOC OTHER OTHER TCLPVOC OTHER OTHER OTHER OTHER TCLPVOC OTHER OTHER TCLPVOC OTHER OTHER TCLPVOC OTHER OTHER
RINSE WATER FROM LINE 401 RINSE WATER FROM LINE 40J RINSE WATER FROM LINE 40K	WL40J2 Line40l Line40l Line40l Line40l Line40J Line40J Line40J Line40K Line40K Line40K Line40K Line40K DC001 DC001	5/18/2000 / 3/5/2000   3/5/2000   5/9/2000   5/9/2000   5/9/2000	Acetone gnitibility H Fetrachloroethene gnitibility H fetrachloroethene gnitibility H fetrachloroethene gnitibility H etrachloroethene gnitibility H etrachloroethene gnitibility H chromium ead	700 500   700 500   700 500	3200 212 > 7.4 24950 1640 212 > 7.3 344 187 212 > 7.2 566 198 212 > 6.2 0.103 0.12	UG/L F STANDARI UG/L UG/L F STANDARI UG/L F STANDARI UG/L UG/L G F STANDARI UG/L UG/L MG/L MG/L	WATER WATER	OTHER OTHER TCLPVOC TCLPVOC OTHER OTHER TCLPVOC OTHER OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC
RINSE WATER FROM LINE 401 RINSE WATER FROM LINE 40J RINSE WATER FROM LINE 40K	WL40J2 Line40I Line40I Line40I Line40I Line40J Line40J Line40J Line40J Line40J Line40J Line40K Line40K Line40K Line40K Line40K Line40C DC001 DC001 DC001	5/18/2000 / 3/5/2000   3/5/2000   5/9/2000   5/9/2000   5/9/2000   6/15/2000	Acetone gnitibility H ifetrachloroethene inchloroethene gnitibility H ifetrachloroethene frichloroethene gnitibility H ifetrachloroethene	700 500 	3200 212 > 7.4 24950 1640 212 > 7.3 344 187 212 > 7.2 566 198 212 > 6.2 0.103 0.12	UG/L F STANDARI UG/L UG/L F STANDARI UG/L F STANDARI UG/L F STANDARI UG/L MG/L MG/L MG/L MG/L	WATER WATER	OTHER OTHER TCLPVOC TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER
RINSE WATER FROM LINE 401 RINSE WATER FROM LINE 40J RINSE WATER FROM LINE 40K	WL40J2 Line40I Line40I Line40I Line40I Line40J Line40J Line40J Line40J Line40J Line40J Line40K Line40K Line40K Line40K Line40K Line40C DC001 DC001 DC001	5/18/2000 / 3/5/2000   3/5/2000   5/9/2000   5/9/2000   5/9/2000	Acetone gnitibility H Tetrachloroethene Inchloroethene gnitibility H Tetrachloroethene frichloroethene gnitibility H Tetrachloroethene GB, Total CB, Total	700 500 	3200 212 > 7.4 24950 1640 212 > 7.3 344 187 212 > 7.2 566 198 212 > 6.2 0.103 0.12	UG/L F STANDARI UG/L UG/L UG/L F STANDARI UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L	WATER WATER	OTHER OTHER TCLPVOC TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER TCLPVOC OTHER

#### DAYTON THERMAL PRODUCTS DAYTON, OHIO

### SEWER CLEANOUT SUMMARY OF POSITIVE DETECTIONS

ORIGIN	SAMPLE ID	DATESAMP	PARAMETER	OHIO EPA TCLP REGULATORY LEVEL	RESULT	QUAL	UNITS	MATRIX	GROUP
non-haz waste drum storage area. Possibly	DrumPad-Rinse	6/30/00	PCB, Total		50.0000 <	:	UG/L	WATER	TCLPPEST
	DrumPad-Rinse	6/30/00	pН		6.8000		STANDAR	WATER	OTHER
old paint booth line	DrumPad-Rinse	6/30/00	Barium	100	0.2600		MG/L	WATER	TCLPMETALS
from Bida 50	DrumPad-Rinse	6/30/00	Lead	5	0.1440		MG/L	WATER	TCLPMETALS
	SludgeNorthDrain	6/27/00	PCB, Total		2000,0000 <		MG/KG	SLUDGE	PEST
Sludge from storm line	SludgeNorthDrain	6/27/00	pН		7.2000		STANDARI	SLUDGE	OTHER
under the non-haz	SludgeNorthDrain	6/27/00	Barium	100	2.1000		MG/L	SLUDGE	TCLPMETALS
drum storage area.	SludgeNorthDrain	6/27/00	Tetrachloroethene	700	894.0000		UG/L	SLUDGE	TCLPVOC
	SludgeNorthDrain	6/27/00	Trichloroethene	500	1887.0000		UG/L	SLUDGE	TCLPVOC

Areas highlighted in yellow indicate exceedences over the Ohio EPA TCLP Regulatory Level J Estimated value MG/L: milligrams per liter MG/KG: milligrams per kilogram UG/L: micrograms per kilogram UG/KG micrograms per kilogram VOC: volatile organic compound SVOC: volatile organic compound TCLP: toxicity characteristic leaching procedure PEST pesticide

PEST pesticide HERB: herbicide



RECON<sup>SM</sup> INVESTIGATION
DAYTON THERMAL PRODUCTS DIVISION
DAYTON, OHIO

ACUSTAR, INC. CHRYSLER MOTORS CORPORATION

June 28, 1991

Revision 1.0

Prepared for:

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Approximate Locations of Facilities with Potential Environmental Concerns Identified in the 45404 and 45414 Zip Codes, Dayton, Ohio

# RECON INVESTIGATION DAYTON THERMAL PRODUCTS DIVISION DAYTON, OHIO

### ACUSTAR, INC. CHRYSLER MOTORS CORPORATION

#### 1 <u>INTRODUCTION</u>

John Mathes & Associates, Inc., (Mathes) is conducting a site investigation at the Acustar, Inc., (Acustar) Dayton Thermal Products Division Plant located at 1600 Webster Street, Dayton, Ohio (Figure 1, Appendix A). This investigation is ongoing and has consisted of the following activities to date:

- review of work conducted by previous consultants (INTRON Laboratories and Miami Geological Services, Inc.);
- evaluation of soil conditions existing in the vicinity of structures removed as part of fasttrack expansion and construction activities, including:
  - sewer lines;
  - miscellaneous underground process pipelines;
  - process sumps;
  - nonhazardous waste storage pad;
  - oil/water separator (removed);
  - trichloroethane (TCA) tank (removed);
  - flux mix room;
  - barrel storage area (new products); and
  - battery storage area.
- evaluation of soil conditions in areas to be excavated as part of the fast-track expansion and construction activities:
  - strip foundation area (outline of new portion of the building);
  - column pier locations; and
  - adjacent paved surfaces.
- evaluation of soil remaining in place in selected areas that may be excavated as part of the fasttrack expansion and construction activities (the clay in the footprint of the new building and adjacent new pavement areas);

- evaluation of soils stockpiled on-site for disposal purposes;
- evaluation of concrete slabs in contact with soil;
- on-site remediation of soils excavated from the footprint of the new building identified as having low levels of total petroleum hydrocarbons (TPH), and selected VOCs (trichloroethene, 1,1,1-trichloroethane, tetrachloroethene, 1,1dichloroethene, 1,1-dichloroethane, and total [cisand trans-] 1,2-dichloroethene); and
- documentation of conditions.

During excavation of soil in the footprint of the new building, a small amount of oily material was observed seeping from the east foundation of Building 40B. The amount of impacted soil was estimated to be less than 100 cubic yards. The soil was sampled and analyzed. Results indicated that the likely source of the contaminant was the freon degreasing operation located immediately west of the wall of Building 40B. Soils affected by this oily material were excavated and subsequently incinerated. Confirmational testing in the footprint of the new building was conducted to evaluate the extent of contaminated soils that required excavation.

Mathes developed a soil gas sampling plan to evaluate the area within Building 40B that may have been affected by additional releases of solvents from past and ongoing plant operations. Subsequently, the investigation was expanded to include the area of the footprint of the new building and a site-wide reconnaissance evaluation.

Mathes conducted the soil gas and groundwater headspace gas investigation at the plant from April 2 through 21, 1991. One hundred sixty-seven soil gas samples, 28 groundwater headspace samples, and 17 duplicate samples were collected and analyzed using Mathes' RECON<sup>SM</sup> soil gas van and equipment for the purpose of identifying and characterizing areas impacted by chlorinated solvents.

#### 2 BACKGROUND INFORMATION

#### 2.1 Site History

Acustar currently operates the Dayton Thermal Products P at 1600 Webster Street, Dayton, Ohio. A portion of this plantown as the Old Maxwell Complex, formerly consisted of seve buildings. The Old Maxwell Complex was recently demolished make space for a new building.

There is no definitive history of operations conducted the Old Maxwell Complex over the years. The followi information was compiled from old plant layouts, memorabilia, a recollections of retired and high seniority employees:

- Building 3 was built circa 1907;
- the majority of these buildings were built prior to 1920;
- Maxwell cars were assembled in Building 3;
- Chrysler bought the plant in 1936, furnaces and commercial air conditioning units were manufactured there;
- during World War II, the plant was used for manufacturing furnaces, gun parts, and bomb shackles for the U.S. Department of the Army;
- after World War II, furnace and commercial air conditioning units were fabricated (light machining, welding, soldering, spot welding, cleaning, painting, and assembly);
- in the early 1960s, aluminum and copper tube forming operations took place in the area, as well as engineering model shops and government work consisting of ammunition rack assembly and storage;
- due to the age and generally poor condition of the building, most production was moved out in the mid-1960s and 1970s and thereafter the building was increasingly used for storage; and
- by the late 1980s, the building had deteriorated and was declared to be off limits for plant personnel.

#### 2.1.1 Reason for the New Building

Union and management personnel cooperated in signing a bargaining agreement that permits specifically designated new work to come to the Dayton plant under a more competitive wage scale. This agreement allows the plant to secure new work and provide additional employment opportunities in the Dayton area.

New work secured under this agreement is referred to as "Plant II." Both union and management personnel believe it is important to separate the new work facilities from the rest of the plant. The new Building 59 is designated as "Plant II."

Both the city of Dayton and the state of Ohio have recognized the importance of bringing new employment opportunities to this area. Both governments have participated financially as follows:

- the state of Ohio has funded the plant in the amount of \$500,000 as a contribution to demolish the old structures that are being removed for the new building;
- the city of Dayton has granted a 10-year tax abatement on the new building and equipment.

#### 2.1.2 New Business Construction Schedule

The Dayton plant has been successful in obtaining four new contracts for production in Building 59. Equipment for these new contracts will start arriving in September 1991. schedule building has been extremely tight, and investigation and remediation to date have not impeded progress. Foundation work for the new building was completed on February 7, 1991, and structural steel arrived for erection on February 19, A contract has been let for the General Contractor as a fast-track construction job with August 30, 1991, completion target date. This date is critical because new equipment for the building will start arriving in September 1991.

#### 2.2 Hydrogeologic Setting

The hydrogeologic setting of the area consists of two to four feet of disturbed native soil (clay) underlain by very thick and continuous calcareous sand and gravel deposits. The highly permeable sands and gravel fill a preglacial valley eroded into the underlying bedrock. According to the Groundwater Resources Map of Montgomery County (Schmidt, 1986), the Acustar facility overlies a portion of the Great Miami River aquifer that can potentially yield in excess of 1,000 gallons per minute of water to a properly constructed well. The Great Miami River aguifer is a designated sole source aquifer. The Acustar site is not included in the city of Dayton's Well Field Protection Overlay District or One Year Capture Boundary. A literature review (Spieker, 1968 and Norris and Spieker, 1966) groundwater flow in the vicinity of the plant is to the south with a gradient of about 5-10 feet per mile. Groundwater levels may fluctuate 5-15 feet per year, generally rising in the winter and spring and falling in the summer and fall. The glacial outwash may be separated into several distinct hydrogeological units by thin (2-15 feet thick) layers or lenses of till (clay) in the immediate vicinity of the plant.

#### 2.3 On-Site Activities

Air and soil monitoring was scheduled as part of the demolition process. Lockwood, Jones and Beals, Inc., Kettering, Ohio, is the architectural firm in charge of construction of the new building. They initially contracted INTRON Laboratories, (INTRON) Kettering, Ohio, to conduct air monitoring for asbestos. INTRON was later asked to monitor the soil uncovered during the

demolition process. INTRON subsequently retained Miami Geological Services, Inc., to collect soil samples at the demolition site and provide ongoing soil monitoring as additional soil was exposed.

Mathes began site activities on November 16, 1990. A Sampling and Analysis Plan was prepared to address all phases of field activities including:

- evaluation of soil conditions existing in the vicinity of structures removed as part of fasttrack expansion and construction activities, including:
  - sewer lines;
  - miscellaneous underground process pipelines;
  - process sumps;
  - nonhazardous waste storage pad;
  - oil/water separator (removed);
  - trichloroethane (TCA) tank (removed);
  - flux mix room;
  - barrel storage area (new products); and
  - battery storage area.
- evaluation of soil conditions in areas to be excavated as part of the ongoing fast-track expansion construction activities:
  - strip foundation area (outline of new portion of the building);
  - column pier locations; and
  - adjacent paved surfaces.
- evaluation of soil remaining in place in selected areas that may be excavated as part of the fasttrack expansion and construction activities (the clay in the footprint of the new building and adjacent new pavement areas);
- evaluation of soils stockpiled on site for disposal purposes;
- evaluation of slabs of concrete in contact with soil;
- procedures to be used to evaluate structures (such as sewer and process lines, sumps, etc.) for disposal;

- procedures for sampling and analysis of various types of materials; and
- documentation of conditions.

During excavation of soil in the footprint of the new building, a small amount of oily material was observed seeping from the foundation of Building 40B. The material was sampled and analyzed. Results indicated the likely source of material was the freon degreasing operation located immediately west of the wall of Building 40B. Soil affected by this oily material was excavated and subsequently incinerated. Confirmational testing was conducted to evaluate the extent of contaminated soils that required excavation.

Mathes developed a soil gas sampling plan to evaluate the area within Building 40B. Subsequently, the investigation was expanded to include the area of the footprint of the new building and a site-wide reconnaissance evaluation.

Mathes conducted the soil gas and groundwater headspace gas investigation at the Dayton plant from April 2 through 21, 1991. One hundred sixty-seven soil gas samples, 28 groundwater headspace samples, and 17 duplicate samples (nine soil gas and eight groundwater headspace) were collected and analyzed using Mathes' RECON soil gas van and equipment. The purpose was to identify and characterize areas impacted by chlorinated solvents. In addition, 23 groundwater samples were collected using the RECON System and submitted for volatile organic compound (VOC) analysis by the U. S. Environmental Protection Agency's (USEPA's) Test Methods for Evaluating Solid Waste, SW-846 Method 8240, Third Edition.

### 3 <u>SUMMARY OF PROCEDURES, INVESTIGATION RESULTS, AND LIMITS OF THE INVESTIGATION</u>

#### 3.1 Procedures

#### 3.1.1 Probe Hole Advancement

Where access was available to the RECON van, a hydraulic probe unit was used to drive and withdraw the soil gas sampling probes. A hydraulic hammer was used where necessary to assist in driving probes through concrete and asphalt, unusually hard soil, and gravelly material. A manual hammer was used in areas within the Dayton plant where access was limited by process equipment. The probes consisted of three-foot lengths of 0.75-inch-diameter, threaded steel pipes with detachable drive points.

Soil gas and groundwater samples were collected by driving the probes to depths ranging from 1-31 feet below the ground surface. In the area of Buildings 40A and 40B, soil gas samples were generally collected at 0-1, 3-4, and 6-7 feet below the floor of the building. In three areas of Buildings 40A and 40B (G-1, G-10, and J-7), soil gas samples were collected at 8-10 and 19-20 feet below the floor, and groundwater samples were collected at 24-25 feet below the floor. Outside the building, soil gas samples were generally collected at 9-10 and 19-20 feet below the surface, and groundwater samples were collected at 24-25 feet below the surface. Additional groundwater samples were collected at 30-31 feet below the surface at four other locations (PH-04, PL-24, LW-1, and LW-3). Sampling depths are listed in Table 1 (Appendix B).

#### 3.1.2 Soil Gas Sampling and Analysis

Once the probe was driven to the desired depth, the probe was withdrawn approximately one foot to create an annular space from which to collect a representative sample of soil gas. The aboveground ends of the probes were fitted with a nipple cap and a length of Tygon tubing leading to a gas collection bulb fitted with Teflon stopcocks at both ends. A separate piece of Tygon tubing was then connected to the opposite end of the sampling bulb and connected to a vacuum pump. One to five liters of air was evacuated from the sample train using the vacuum pump. The sample was then collected in the bulb and both stopcocks were closed simultaneously.

A Hewlett-Packard Model 5890As Series 2 gas chromatograph was used to analyze soil gas samples. Compound separation and detection were performed using a 30-meter, wide-bore DB-624 volatile organics column and a flame-ionization detector.

Each soil gas sample was injected directly into the gas chromatograph. The analysis was performed isothermally at 75°C with a total analysis time of eight minutes.

Concentration measurements were performed using an external standard calibration. Known concentrations dichloroethene, trans-1,2-dichloroethene, cis-1,2-dichloroethene, 1,1,1-trichloroethane, trichloroethene, and tetrachloroethene in calibration gas mixture were injected into the chromatograph. Compound peak area versus standard concentration was used to calculate compound concentration in the sample.

#### 3.1.3 Groundwater Sampling and Analysis

Twenty-eight groundwater samples were collected from locations at depths 24-31 feet below ground surface as shown in Figure 17 (Appendix A) and subjected to headspace analysis. A

depth of 24-25 feet below the surface is presumed to correspond with the upper portion of the water table. Eight duplicate groundwater headspace samples were collected and analyzed.

The RECON van's hydraulic probe also was used to drive and withdraw the groundwater sampling probes. The probes consisted of three-foot lengths of 0.75-inch-diameter, threaded steel pipes with detachable drive points. After the probe was inserted into the groundwater (at depths greater than about 24 feet below the surface), the probe was withdrawn approximately 1 foot to create an annular space from which to collect a representative sample. A section of polyethylene tubing was inserted through the probe into the groundwater. The aboveground end of the tubing was connected to a vacuum pump. A vacuum was pulled until water reached the vacuum pump. The pump was then turned off, the tubing was disconnected from the pump, and a portion of the water in the tubing was drained into a 40 milliliter (ml) glass volatile organic analysis (VOA) vial until it was about one-half full. The vial was sealed with a Teflon-lined septum screw cap and was given to the gas chromatograph technician for on-site analysis.

The headspace above groundwater samples was analyzed for 1,1-dichloroethene, trans-1,2-dichloroethene, cis-1,2-dichloroethene, 1,1,1-trichloroethane, trichloroethene, and tetrachloroethene by USEPA SW-846 Method 8015. The samples were analyzed in the field using a Hewlett-Packard Model 5890-A Series 2 gas chromatograph located inside the soil gas van.

Each sample vial was shaken for one to two minutes to equilibrate the volatile components between the liquid and the air in the vial. The sample was then allowed to rest for one minute. An aliquot of up to 200 micrograms of the headspace was collected by inserting a syringe through the septum of the vial and pulling the headspace sample into the syringe. The sample was then injected into the gas chromatograph. The analysis was performed isothermally at 75°C for a total analysis time of 8 minutes.

#### 3.1.4 Quality Assurance/Quality Control

Quality assurance/quality control (QA/QC) is an essential part of an analytical test methodology. It is used to increase the confidence in the analytical results and to evaluate the reproducibility of the data.

For this investigation, the detection limits for the chlorinated volatile organic analyses were established as 1 microgram per liter (ug/L). The detection limit is the lowest concentration of a compound that can be practicably measured relative to the calibration standard. Detection limits are a function of the injection volume as well as detector sensitivity. The detection limit is calculated from the current response factor, the sample size, and the estimated peak area that would have been detected under the given conditions.

The gas chromatograph was calibrated using a known concentration of each of the six compounds of interest at the beginning of the day, before analysis of any samples, and once about mid-day. The USEPA recommends instrument calibration to be performed at least once every 12 hours. The calibration helps to evaluate the operating conditions of the gas chromatograph.

Concentration measurements were performed using an external standard calibration. Known concentrations of 1,1-dichloroethene, trans-1,2-dichloroethene, cis-1,2-dichloroethene, 1,1,1-trichloroethane, trichloroethene, and tetrachloroethene in a calibration gas mixture were injected into the gas chromatograph. Compound peak area versus standard concentration was used to calculate sample concentration.

An ambient air sample is analyzed as a means of indicating that sample carry-over has not occurred. If sample carry-over has occurred, the concentration detected in the ambient air blank can be subtracted from any of the subsequent samples containing that compound.

A duplicate sample, which is a second volume of air collected from the same sample location, is analyzed once every 20 samples, or at least once daily for each investigation.

Seventeen duplicate samples were collected (nine at soil gas sample locations, and eight at groundwater headspace analysis locations) for this survey. Duplicates are used to evaluate the reproducibility of the analytical data. The analytical results for duplicate samples collected at locations selected were similar.

#### 3.2 Results

A complete listing of analytical results is presented in Table 1 (Appendix B). Analytical results are discussed below for the area investigated in Buildings 40A and 40B and site-wide reconnaissance. The data are discussed below by location and compound.

In general, the presence of various chlorinated compounds in soil gas and groundwater headspace was ubiquitous.

#### 3.2.1 Building 40A and Building 40B

## 3.2.1.1 <u>Trichloroethene</u> (Figures 2, 3, and 4, Appendix A)

Trichloroethene was detected in the eastern portion of the building (bays K, J, and I). Concentrations were generally highest near the freon degreasing operation (bay K-5) and bays K-8, J-4, J-6, I-5, and I-6. With the exception of an elevated level of trichloroethene in samples from bay G-8, the extent of elevated levels of trichloroethene from this area appears to be limited to the eastern portion of Buildings 40A and 40B.

### 3.2.1.2 <u>1,1,1-Trichloroethane</u> (Figures 5, 6, and 7, Appendix A)

1,1,1-Trichloroethane was detected in the eastern portion of the building (bays G, H, I, J, and K). Concentrations were generally highest near the 1,1,1-trichloroethane degreasing operation in bay H-12, the freon degreasing operation in bay K-5, and bays K-8, J-4, J-6, I-5, I-6, and I-7. With the exception of an elevated level of 1,1,1-trichloroethane in samples from bay G-12, the extent of elevated levels of 1,1,1-trichloroethane from this area appears to be limited to the eastern portion of Buildings 40A and 40B.

## 3.2.1.3 <u>Tetrachloroethene</u> (Figures 8, 9, and 10, Appendix A)

Tetrachloroethene was detected in the central portion of the building (bays I-3 to I-6). Concentrations were generally highest near bays I-5, I-6, and J-6 with elevated levels also being observed in the areas of bays I-3, I-4, and G-1 and G-8. With the exception of an elevated level of tetrachloroethene in samples from bay G-12, the extent of elevated levels of tetrachloroethene from this area appears to be limited to the eastern portion of Buildings 40A and 40B.

## 3.2.1.4 <u>1,1-Dichloroethene</u> (Figures 11, 12, and 13, Appendix A)

1,1-Dichloroethene was detected in the eastern portion of the building (bays K, J, I, H and G). Concentrations were generally highest near the freon degreasing operation along the eastern wall of Building 40A (bays K-5, K-4, and K-3) and bays K-6, K-7, K-8, J-4, J-6, I-4, I-5, I-6, I-7, I-8, H-12, and G-8 and G-12. The extent of this compound has not been defined

laterally to the west and may extend into the western portion of Building 40 (especially at depths greater than about 3-4 feet below the floor of the plant).

The identification of the contaminant as 1,1-dichloroethene is tentative, due to instrumentation limitations. It is possible that freon compounds are contributing to the high readings due to possible elution from the gas chromatograph at identical time period as that exhibited by 1,1-dichloroethene in the calibration standard.

## 3.2.1.5 <u>cis-1,2-Dichloroethene</u> (Figures 14, 15, and 16, Appendix A)

Cis-1,2-dichloroethene was detected in the eastern portion of the building (bays K, J, and I). Concentrations were generally highest near bays J-6 and I-6. Similar concentrations were observed near the freon degreasing operation (bays K-2, K-3, K-4, and K-5) and bays K-1, K-8, K-9, J-3, J-4, I-3, I-4, and I-5. With the exception of bay G-8, higher levels of cis-1,2-dichloroethene appear to be limited to the eastern portion of Buildings 40A and 40B.

#### 3.2.1.6 <u>trans-1,2-Dichloroethene</u>

The compound was not detected in samples from the area investigated in Buildings 40A & 40B.

#### 3.2.2 Site-Wide Reconnaissance

Twenty-two probe holes were advanced and soil gas samples were generally taken at depths of about 8-10 feet and 19-20 feet below the surface. Sampling locations and designations are indicated on Figure 17 (Appendix A). Analytical results are

detailed on Table 1 (Appendix B). Groundwater was generally collected at 24-25 feet below the ground surface at these locations and a headspace analysis was performed. At three selected locations outside the buildings (PL-24, LW-1, and PH-04), groundwater was collected at both 24-25 feet and 29-30 feet below the ground surface.

## 3.2.2.1 <u>Trichloroethene</u> (Figures 18, 19, 20, and 21, Appendix A)

The highest concentrations of trichloroethene detected in soil gas and groundwater headspace were observed in areas of Building 40A, Building 40B, and Building 59 (new building - Plant II). Elevated readings were also observed in the storage area east of Building 50, and in the storage area south of Building 40B.

Groundwater samples (Table 2, Appendix B and Figure 21, Appendix A) had the highest levels of trichloroethene in the area south of Building 53, Building 40A, Building 40B, Building 59, along the eastern edge of the property, and along the southern edge of the property. Trichloroethene levels were more than two orders of magnitude above the federally mandated maximum contaminant level (MCL) of 5 micrograms per liter (ug/L). Groundwater samples collected at 30-31 feet below the surface indicated similar levels of trichloroethene, except for location LW-3, which indicated an increase from 400 ug/L to 2,000 ug/L.

## 3.2.2.2 <u>1,1,1-Trichloroethane</u> (Figures 22, 23, 24, and 25, Appendix A)

The highest concentrations of 1,1,1-trichloroethane detected in soil gas and groundwater headspace were observed in areas south of Building 53 (adjacent to the 1,1,1-trichloroethane

tanks), Building 40A, Building 40B, and the western portion of Building 59. Elevated readings were also observed in the storage area east of Building 50 and along the northeastern edge of the property.

Groundwater samples (Table 2, Appendix B and Figure 25, Appendix A) were observed to have elevated levels of 1,1,1-trichloroethane in the area south of Building 53 (near the 1,1,1-trichloroethane tanks), Building 40A, Building 40B, the western portion of Plant II, along the eastern edge of the property, and along the southern edge of the property. Levels of 1,1,1-trichloroethane observed in some samples were greater than the MCL of 200 ug/L. Groundwater samples collected at 30-31 feet below the surface indicated similar levels.

## 3.2.2.3 <u>Tetrachloroethene</u> (Figures 26, 27, 28, and 29, Appendix A)

The highest concentrations of tetrachloroethene detected in soil gas and groundwater headspace were observed in areas south of Building 53 (adjacent to the 1,1,1-trichloroethane tanks), Building 40A, and Building 40B. Similar readings were also observed in the storage area east of Building 50 and along the northeastern edge of the property.

Groundwater samples (Table 2, Appendix B and Figure 29, Appendix A) were found to have elevated levels of tetrachloroethene in areas south of Building 53 (near the 1,1,1-trichloroethane tanks), Building 40A, Building 40B, in the storage area east of Building 50, and along the eastern edge of the property. Groundwater samples collected at 30-31 feet below the surface indicated similar levels of tetrachloroethene. Several samples had levels two orders of magnitude higher than the MCL of 5 ug/L.

## 3.2.2.4 <u>1,1-Dichloroethene</u> (Figures 30, 31, 32, and 33, Appendix A)

The highest concentrations of 1,1-dichloroethene detected in soil gas and groundwater headspace were observed in areas south of Building 53 (adjacent to the 1,1,1-trichloroethane tanks), Building 40A, Building 40B, and the western portion of Building 59.

Groundwater samples (Table 2, Appendix B and Figure 33, Appendix A) were found to have elevated levels of 1,1dichloroethene in the area south of Building 53 (near the 1,1,1trichloroethane tanks) and in the western portion of Building 59. Some of the samples had levels nearly two orders of magnitude greater than the MCL of 5 ug/L. Groundwater samples collected at 30-31 feet below the surface indicated similar levels It should be noted that concentrations of 1,1-dichloroethene. 1,1-dichloroethene observed by the laboratory were not indicative of levels observed by the RECON System. This may indicate that freon compounds may be eluting from the gas chromatograph in the RECON System at the same time as the 1,1-dichloroethene standard. The only freon compound analyzed (trichlorofluoromethane) was not observed at the detection limit of 5 ug/L.

## 3.2.2.5 <u>cis-1,2-Dichloroethene</u> (Figures 34, 35, and 36, Appendix A)

The highest concentrations of cis-1,2-dichloroethene were detected in soil gas and groundwater headspace samples from areas of Building 40A, Building 40B, the western portion of Building 59, south of Building 53 (adjacent to the 1,1,1-trichloroethane tanks), and the storage area east of Building 50.

Groundwater samples (Table 2, Appendix B) were observed not to have levels of cis-1,2-dichloroethene above the detection limit of 5 ug/L.

## 3.2.2.6 <u>1,1,2-Trichloroethane</u> (Figure 37, Appendix A)

Groundwater samples (Table 2, Appendix B and Figure 37, Appendix A) had elevated levels of 1,1,2-trichloroethane in areas of Building 59, south of Building 53 (adjacent to the 1,1,1-trichloroethane tanks), and in the southeast corner of the property. All levels were below 20 ug/L; however, the MCL for 1,1,2-trichloroethane is 5 ug/L.

### 3.2.2.7 <u>trans-1,2-Dichloroethene</u> (Figure 38, Appendix A)

Groundwater samples (Table 2, Appendix B and Figure 38, Appendix A) had elevated levels of trans-1,2-dichloroethene only in the western portion of the area of Building 59. This compound was not detected at the method detection limit of 5 ug/L for all other areas sampled. The MCL for trans-1,2-dichloroethene is 100 ug/L.

## 3.2.2.8 <u>1,1-Dichloroethane</u> (Figure 39, Appendix A)

Groundwater samples (Table 2, Appendix B and Figure 39, Appendix A) had elevated levels of 1,1-dichloroethene in areas of Building 59, south of Building 53 (adjacent to the 1,1,1-trichloroethane tanks), the storage area east of Building 50, and along the southern boundary of the property. This compound was not detected at the method detection limit of 5 ug/L for all other areas sampled. No MCL has been established for 1,1-dichloroethane.

### 3.2.2.9 <u>1,2-Dichloroethane</u> (Figure 40, Appendix A)

Groundwater samples (Table 2, Appendix B and Figure 40, Appendix A) had elevated levels of 1,2-dichloroethene in areas of the western portion of Building 59 and south of Building 53 (adjacent to the 1,1,1-trichloroethane tanks). It was not detected at the method detection limit of 5 ug/L for all other areas sampled. The MCL for 1,2-dichloroethane is 5 ug/L.

#### 3.3 Limitations of the Investigation

The RECON investigation is a qualitative investigation tool and as such is a relative indicator of concentrations of targeted compounds in the media evaluated. Results of this procedure may be influenced by some of the factors discussed below.

A shallow water table increases the likelihood of the soil gas vapor sample mixing with air and being diluted, thereby making it difficult to collect a reliable and representative sample. Thick, dense clays or very deep groundwater tables tend to decrease concentrations of soil gas and alter relative concentrations. Biodegradation change both can the concentrations and the composition of the soil gas samples from that of the material present originally. Portions of the area investigated may have distorted results due to hydrologic and geologic anomalies such as soils with low permeabilities, perched water, or subsurface obstructions. Meteorological conditions, such as barometric pressure and humidity, and soil conditions, such as moisture, soil temperature, and soil gas temperature, may increase or decrease the magnitude of survey results depending on the combination of the variables. Lateral migration is also a common phenomenon. This migration may be caused by soils with low permeability or by such man-made occurrences, such as relief or recovery wells, basements, paved areas, utility trenches, and

areas backfilled with gravel. Due to these wide ranges of variables associated with a soil gas survey, the results should be considered qualitative.

Groundwater samples collected using the RECON System are subjected to a vacuum to draw the sample to the surface. Although the actual sample recovered from the tubing is retrieved from the bottom of the tubing, it is not collected using standard USEPA protocol. As such, it should be considered a minimum value and be used to compare relative concentrations among samples collected. Samples collected from monitoring wells in adjacent locations monitoring the same area of the aquifer, following standard USEPA protocol, could yield different values.

#### 4 SURROUNDING PROPERTIES

A survey of USEPA and Ohio Environmental Protection Agency (OEPA) data bases (as of 1991) was completed for the following zip code areas: 45404 in which the plant is located, and the adjacent area 45414. The survey was conducted by Environmental Audits. Identified sites are listed in Appendix C. Their locations are plotted on Plate 1. The Acustar site is not included in the printout of FINDS and Resource Conservation and Recovery Act (RCRA) sites due to the search strategy used.

Below is a brief summary, which indicates:

- no sites on the National Priorities (Superfund)
   List (NPL). This data base lists sites known to be
   uncontrolled or abandoned waste sites identified
   for priority remedial actions under the
   Comprehensive Environmental Response, Compensation
   and Liability Act (CERCLA) of 1980 Program;
- 145 sites in the Facility Index System (FINDS), which consists of any property or site that the USEPA has investigated, reviewed, or been made aware of in connection with <u>any</u> of its regulatory programs;
- eight sites on the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) List, which is a compilation by the USEPA of sites that it has investigated or is currently investigating a release or threatened release of hazardous substances pursuant to CERCLA;
- 141 sites in the RCRA Program, which identifies and tracks hazardous waste from the point of generation to the point of disposal. This data base is a compilation by the USEPA of reporting facilities that generate, store, transport, treat, or dispose of hazardous waste;
- one site was present in the OPEN DUMP inventory of facilities that do not comply with the USEPA's criteria for classification of Solid Waste Disposal Facilities and Practices; and,

 eight sites were present in the Emergency Response Notification System (ERNS), which is a national data base used to collect information on reported releases of oil and hazardous substances. The data base contains information from spill reports made to federal agencies including the USEPA, the U.S. Coast Guard, the National Response Center, and the Department of Transportation.

#### 5 CONCEPTUAL SUBSURFACE MODEL

A conceptual subsurface model was developed based on published information of regional characteristics of aquifers in the vicinity of the plant and the Building 50 water supply well boring log. This model is presented in Figure 41 (Appendix A).

Based on the results of this investigation, chlorinated VOCs are present in the water table aquifer (5-55 feet below the surface). Based on tests performed on split water samples from each of the two plant wells by both Acustar and the state in November 1989, low levels of chlorinated VOCs were detected in the 89-foot well located in the Power House but not in the 136-foot well located in Building 40. This indicates that chlorinated VOCs are present in the first semi-confined aquifer (60-80 feet below the surface); however, the second semi-confined aquifer (100-128 feet below the surface) apparently has not been impacted. The lateral extent or the continuity of the clay (confining) layers in the vicinity of the plant is not known.

Based on published information (Norris, et. al., 1966; Schmidt, 1986; and Spieker, 1968), groundwater flow beneath the plant is toward the south with a gradient of about 5-10 feet per mile. Water levels may fluctuate as much as 5-15 feet per year, generally rising in the winter and spring and falling in the summer and fall. The aquifer beneath the plant is a prolific aquifer used as a drinking water source for the city of Dayton. However, the Dayton Waterworks intake is located about 4 miles northeast (upgradient) of the plant.

Water is generally hard (calcium bicarbonate type) with total dissolved solids of about 400 to 450 milligrams per liter (mg/L). Wells in the water table generally yield about 200 gallons per minute (gpm). The water table aquifer has a specific capacity of about 25 to 50 gpm/foot of drawdown. Wells in the deeper semi-confined zones can yield up to 3,000 gpm, and have specific capacities of up to 120 gpm/foot of drawdown.

#### 6 CONCLUSIONS

The following is a summary of conclusions based on the data presented in this report:

- chlorinated solvents have been released over a period of time up to the present and apparently from several sources;
- chlorinated solvents have been found in sediments under the cement floor in Buildings 40A and 40B in the following areas:
  - bay K-8;
  - bays K-3, K-4, and K-5 (current location of the freon degreasing operation);
  - bays H-12 (present location of the 1,1,1trichloroethane degreasing operation) and G-12;
  - bay G-8;
  - the central portion of Building 40B in bays J-4,
     J-6, I-4, I-5, and I-6.
- the above areas will probably continue as sources of groundwater contamination until they are removed or isolated;
- several other areas were identified that contain concentrations of chlorinated VOCs that may indicate potential sources of groundwater contamination. They are:
  - the southwestern portion of Building 59;
  - Building 40A and Building 40B;
  - the area south of Building 53 (adjacent the 1,1,1-trichloroethane tanks); and
  - the storage area east of Building 50.

Assuming groundwater flows from north to south in the area of the plant according to published data in the Dayton area, the following may be inferred:

- upgradient sources do not appear to have significantly impacted the 5-55 foot aquifer on the plant property;
- information from the environmental audit did not identify any obvious, potential sources of chlorinated VOCs upgradient from the plant;

 chlorinated VOCs detected in water samples from the upper aquifer near the plant's southern boundary indicate potential for off-site movement of contamination downgradient of the plant.

#### 7 RECOMMENDATIONS

Based on the information assembled during this investigation and presented in this report, the following additional work is recommended:

- prevent identified potential sources of contamination from contributing additional contamination to the aquifer;
- characterize subsurface conditions at the plant site using established USEPA protocols; and
- evaluate risks associated with potential for continued releases of chlorinated VOCs from the facility to the soils and aquifer immediately below the facility.

Current data suggests subsurface contamination originates from both specific and non-point sources. VOCs have been detected in both the vadose zone and groundwater.

The purpose of the first recommendation is to mitigate or eliminate identified potential sources of additional contamination to the aquifer. A brief outline of the work scope recommended to accomplish this task is presented in Section 7.1 below.

The purpose of the second and third recommendations is to complete the assessment of subsurface conditions, and, if appropriate, initiate a cost-effective cleanup. The objectives of this additional work are to:

- characterize the nature and extent of risks posed by releases of VOCs from the facility;
- evaluate potential remedial options; and
- select the most cost-effective alternative(s).

A brief outline of the work scope required to accomplish this task is presented in Section 7.2 below.

#### 7.1 Source Control

#### 7.1.1 1,1,1-Trichloroethane Tanks South of Building 53

The 1,1,1-trichloroethane tanks currently in operation south of Building 53 are an apparent source of contamination to the subsurface. Current management practices should be reviewed, and practices that allow release of chlorinated solvents to the environment should be discontinued. The tanks, associated piping, and containment system should be inspected and evaluated for integrity. Corrective maintenance, if required, should be implemented immediately. If the tanks, piping, and containment system cannot be evaluated as intact, the system should be removed from service.

#### 7.1.2 <u>Building 40B</u>

Sediments beneath the concrete floor of Building 40B contain chlorinated solvents and will serve as a continuing source of contamination to the underlying aquifer. This source of contamination should be isolated from contributing additional contamination to the aquifer. VOCs beneath the concrete floor should be remediated to reduce future possibility of additional contributions of contamination.

Building 40B is an active manufacturing facility with extensive machinery and equipment within the building. The building is approximately 180 feet wide by 360 feet long. Excavating the soil or extensive work within the building to remediate the soil would appear to be impractical from a cost and an operations standpoint. Mathes is therefore recommending installation of a soil venting system beneath the building that would be installed by shallow horizontal borings from the exterior of the building. This type of system will have the potential to reduce the movement of free product downward to groundwater or laterally outside the building limits and reduce

the levels of VOCs in the soils. This system also offers the advantage of requiring only limited work to be performed inside the building.

While the recommended system will be constructed primarily to mitigate continued contamination of the underlying aquifer, an unknown level of remediation of contaminated soil will be accomplished by the soil venting system. Mathes considers certain techniques in the application of this technology consider requests that Acustar proprietary and Only after several months of recommendation as confidential. operation will we be able to evaluate the duration required for soil remediation.

The proposed scope of work for this phase of source control is described below.

1. Construct Soil Venting System Below Building 40B - Install, on approximately 40-foot centers, perforated steel casing pipes containing a geotextile-wrapped slotted high-density polyethylene (HDPE) soil venting pipe. Figure 42 indicates the proposed location of the soil venting pipes. Four pipes will be case-bored from outside the north wall of the building, and four pipes will be case-bored from the south wall of the building, and each will extend approximately 180 feet to the center of the building. The piping will be installed as shallow as existing utilities will allow (Figure 43). The depth will be determined by investigation of known utilities exiting Building 40B, but is expected to be in the range of 5-8 feet below the top of the concrete floor of the building.

The pits for installation of the casing pipes will be approximately 15 feet wide and 35 feet long. Pavement will be sawcut at the limits of the pits in paved areas. excavated material will be stockpiled adjacent Excavated material that excavation for use as backfill. appears to be contaminated, based on visual observations and field instrument readings, will be stockpiled on and covered with polyethylene sheeting. A sample will be collected from the stockpiled soil and analyzed for VOCs to evaluate if the soil is suitable for use as backfill. If contaminated, the material should be tested, evaluated, and handled appropriately.

2. <u>Construct Inlet Venting System Inside Building 40B</u> - Based on existing manufacturing use and selected jointly with Acustar, holes will be core-drilled through the concrete

floor to allow air-flow through the soil beneath the floor at production-isolated areas. Polyvinyl chloride (PVC) piping will be installed and sealed within these holes and will be extended through the building roof. It is assumed that the piping can be extended through the roof and scaled with a rubber boot without creating leaks. The piping should be protected so that rain water will not enter the soil. It is assumed that 24 one-inch diameter vent pipes will be installed.

- 3. <u>Install Soil Venting Blower Systems</u> A sealing device (cap) will be installed over the end of each steel casing pipe. The soil venting pipe will pass through this cap and be extended to the surface for connection to a 350 cubic feet per minute vacuum blower. The blower will be skid mounted and driven by an electric motor and will contain provisions for off-gas sampling.
- 4. <u>Installation of Piezometers</u> Install five piezometers/manometers to evaluate the volume of influence of the blower selected.
- 5. Operate and Evaluate Initial Soil Venting System - Install and operate an initial soil venting system consisting of one 180-foot run of extraction piping, six inlet vents, five piezometers, and one vacuum blower to evaluate the most cost-effective spacing of the extraction piping. initial system will be installed from the north end of Building 40B, approximately 20 feet from the west side of the building. This initial system will also serve as one of the eight final soil venting systems. To expedite the installation of the complete soil venting system and to complete construction in one mobilization, Mathes recommends to continue with installation of the remainder of the extraction pipes during operation of the initial system. The order of installation of the extraction pipes will be scheduled to first complete the piping near the west and east sides of the building to allow adjustment of the intermediate piping spacing based on the evaluation of the initial system operation. Authorization for initial operation of the soil venting system will be requested from the Ohio Air Pollution Control Agency prior to startup of the system. Mathes will perform initial startup of the soil venting system after construction and operate and monitor the system. During this four-day operation, monitoring will be performed to evaluate the most cost-effective spacing of the soil venting pipes.
- 6. <u>Sampling and Analysis</u> During the initial four-day operation of the soil venting system, off-gas samples will be collected from the sample port on the vacuum blower. One initial sample will be submitted for laboratory analysis for VOCs. These results will be utilized to identify permitting

requirements with the state of Ohio Air Pollution Control Agency and to evaluate the method required for treatment of the off-gas, if required.

#### 7.2 Subsurface Assessment and Cleanup

Additional data is required to design and implement the most cost-effective method(s) to remediate subsurface contamination. Data required includes site-specific information concerning:

- lateral and vertical extent of sediments to delineate both aquifer and semi-confining layer boundaries;
- aquifer, vadose zone, and semi-confining layer properties to evaluate air flow (to design venting systems), groundwater flow (to design groundwater remediation systems), and ability of the semiconfining layer to influence contaminant transport; and
- groundwater flow (direction and velocity) in the water table aquifer and first semi-confined aquifer.

These data are required to evaluate and predict subsurface movement of contaminants. Evaluation of transport mechanisms (vapor phase; dense, non-aqueous phase liquid; dissolved phase in groundwater, etc.) requires knowledge of subsurface conditions. Contaminant transport information is required to identify potential on-site and off-site sources of contamination.

The initial phase of subsurface characterization should consist of the following field activities:

- advance six boreholes to about 100 feet (through base of first "confined" saturated zone) with construction of monitoring wells (screened intervals to be determined) (Figure 44);
- based on the results of the six boreholes, evaluate the need for additional information (Additional deep boreholes may be required if subsurface conditions are complicated and the conceptual model cannot be fully developed.);

- advance a minimum of six additional wells monitoring various levels of the water table (unconfined saturated zone);
- evaluate subsurface conditions in the soil (sediments) in areas identified as having elevated levels of chlorinated solvents - evaluation to include:
  - VOCs
  - grain size distribution
  - response testing (venting tests to measure gas conductivity) in areas to be evaluated for remediation (area south of building 53 near the 1,1,1-trichloroethane tanks and storage area east of Building 50) - tests will require additional boreholes with installed manometers;
- evaluate groundwater conditions and parameters in areas identified as having elevated levels of chlorinated solvents - evaluation to include:
  - VOCs (additional parameters for air stripping)
  - measure water levels (unconfined) and piezometric surface (confined)
  - flow direction and velocities
  - response testing (pumping test to measure hydraulic conductivity) in areas to be evaluated for remediation (areas along the southern portion of the property, Building 40B, area south of building 53 near the 1,1,1-trichloroethane tanks, and storage area east of Building 50) tests will require additional boreholes with installed piezometers.

Field activities should be supplemented with the following regulatory and engineering evaluations:

- evaluate cleanup standards
  - Applicable or Relevant and Appropriate Requirements (ARARS)
  - RCRA Corrective Action levels
  - Health-risk based levels;
- engineering evaluation soil remediation
  - use data from venting test to evaluate potential to effect remediation of sediments contaminated with chlorinated solvents:

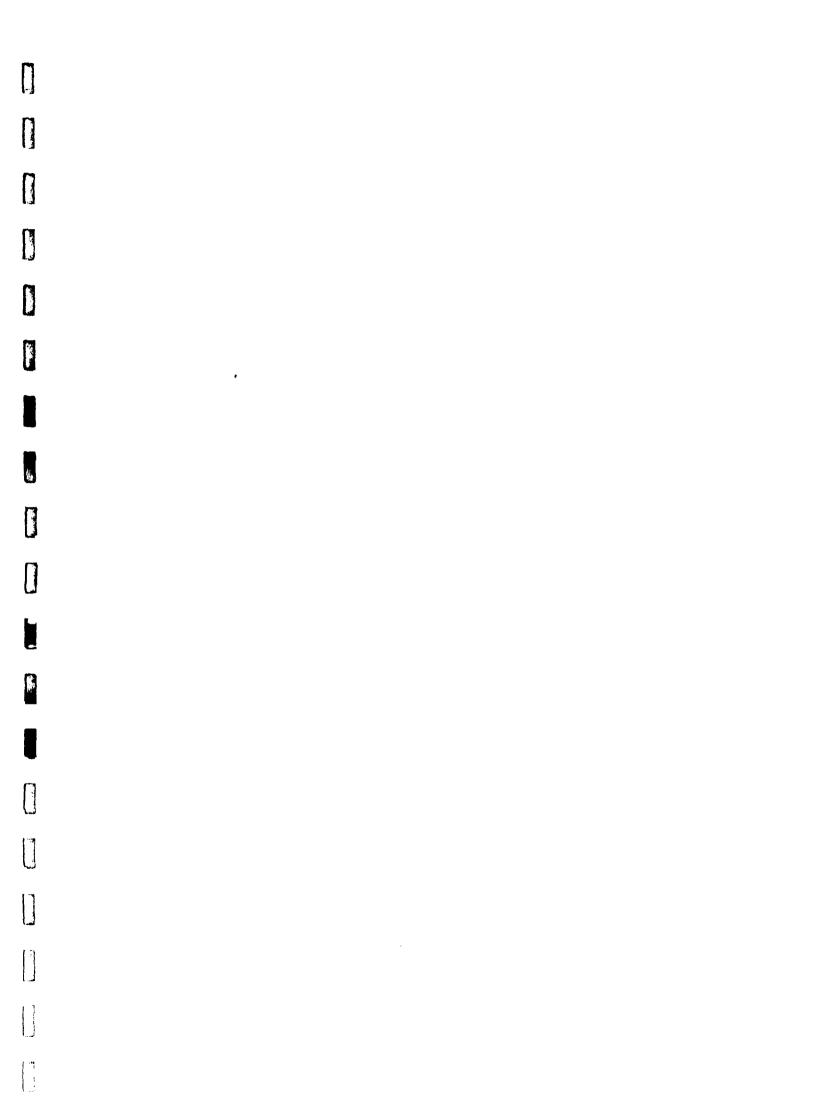
- o evaluate technical feasibility of attaining selected cleanup levels
- o evaluate economic feasibility on conceptual level (comparisons)
- evaluate additional data requirements (if any);
- design and cost selected system;
- evaluate permit requirements;
- engineering evaluation groundwater remediation
  - use data from pumping tests to evaluate potential to affect remediation (pump and treat, with air stripping, carbon absorption, etc.) of groundwater contaminated with chlorinated solvents:
    - o evaluate technical feasibility of attaining selected cleanup levels
    - o evaluate economic feasibility on conceptual level (comparisons);
  - evaluate additional data requirements (if any);
  - design and cost selected system;
  - evaluate permit requirements.

Once the data evaluation has been completed, the most costeffective remedial option(s) can be selected and implemented.

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#### APPENDIX A

## Figures

1	Site Location Map
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## APPENDIX A (Continued)

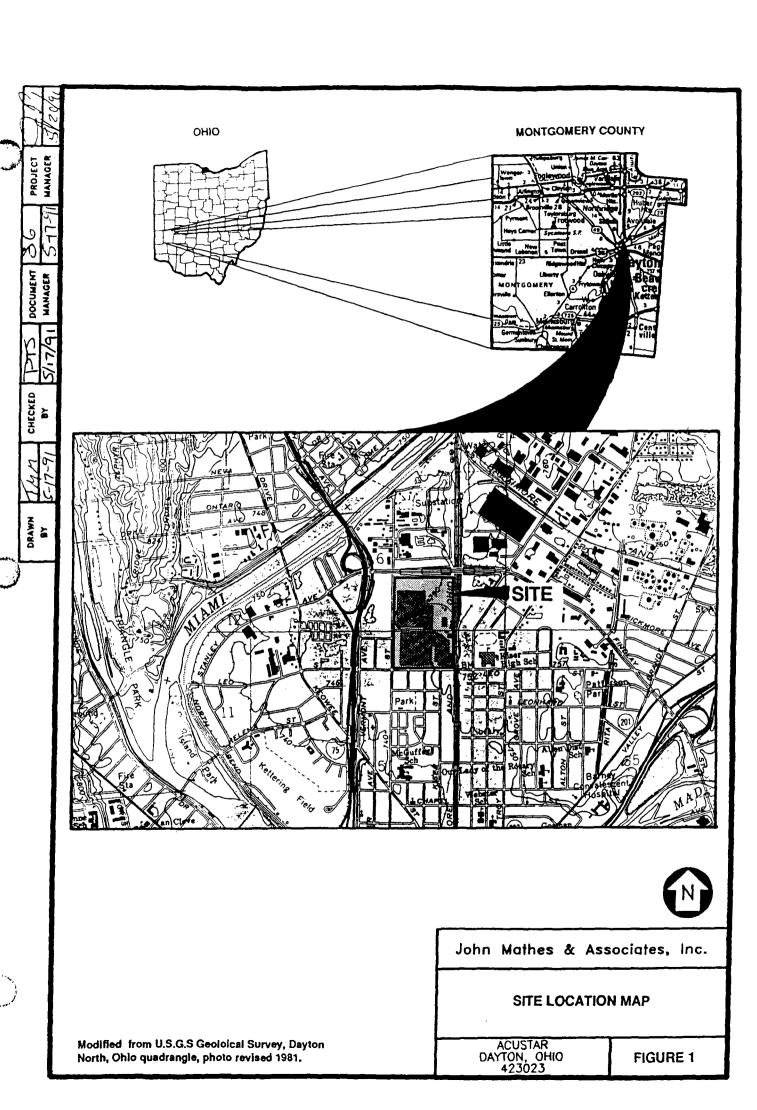
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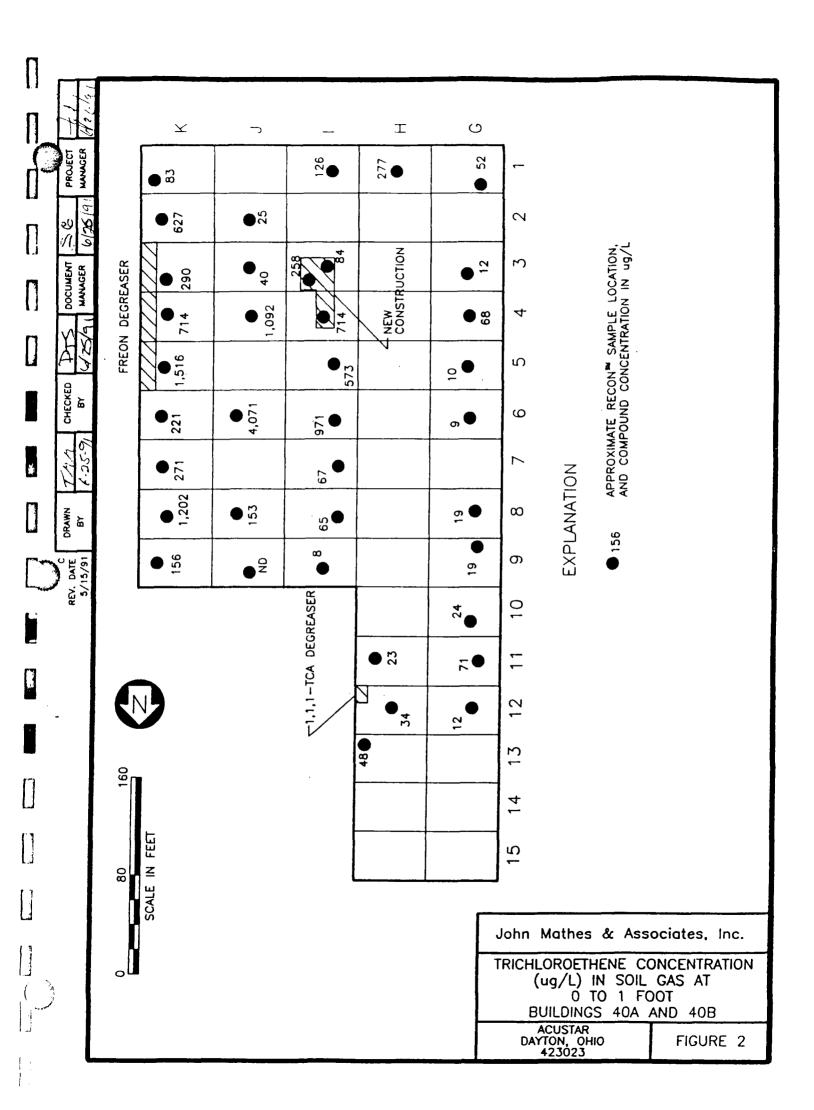
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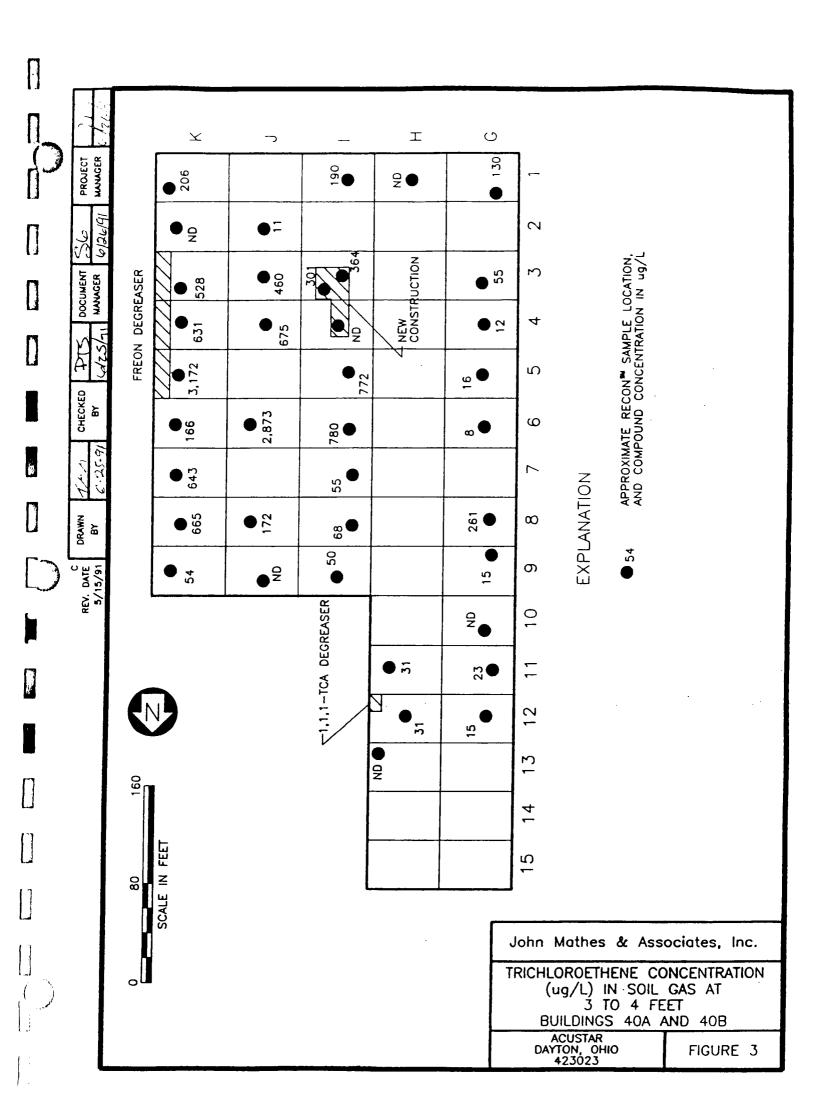
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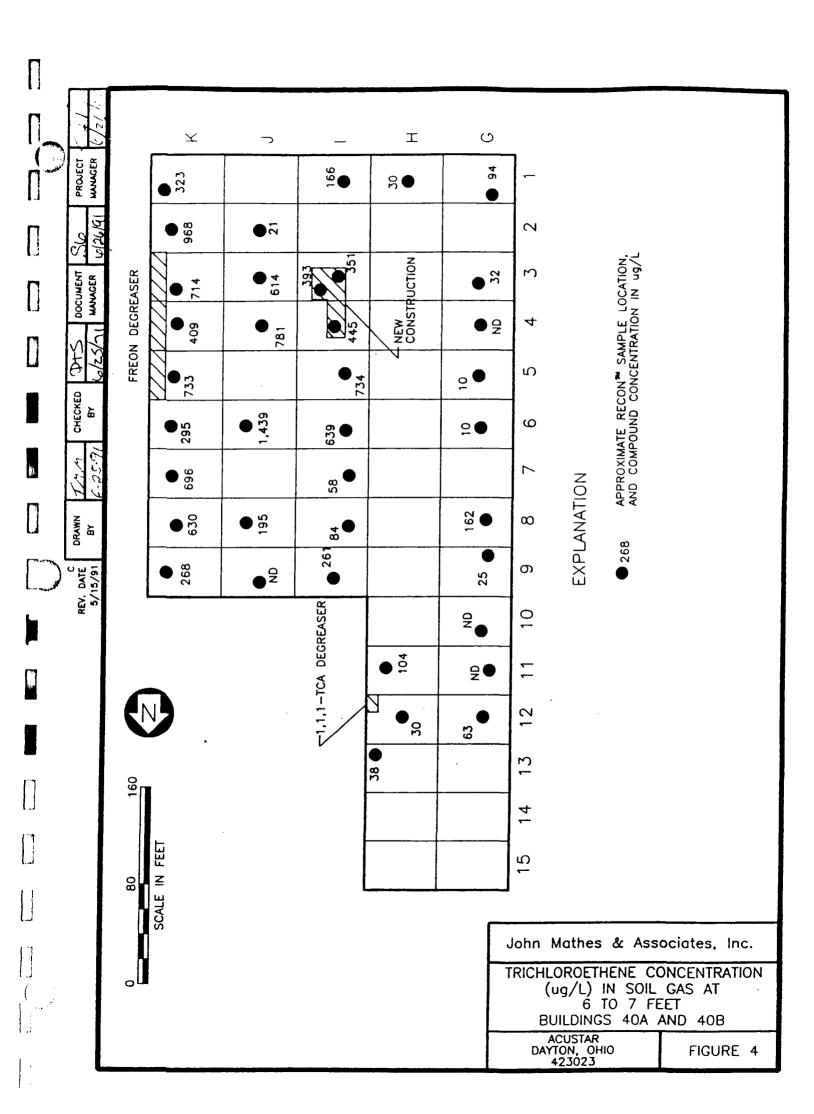
## Figures

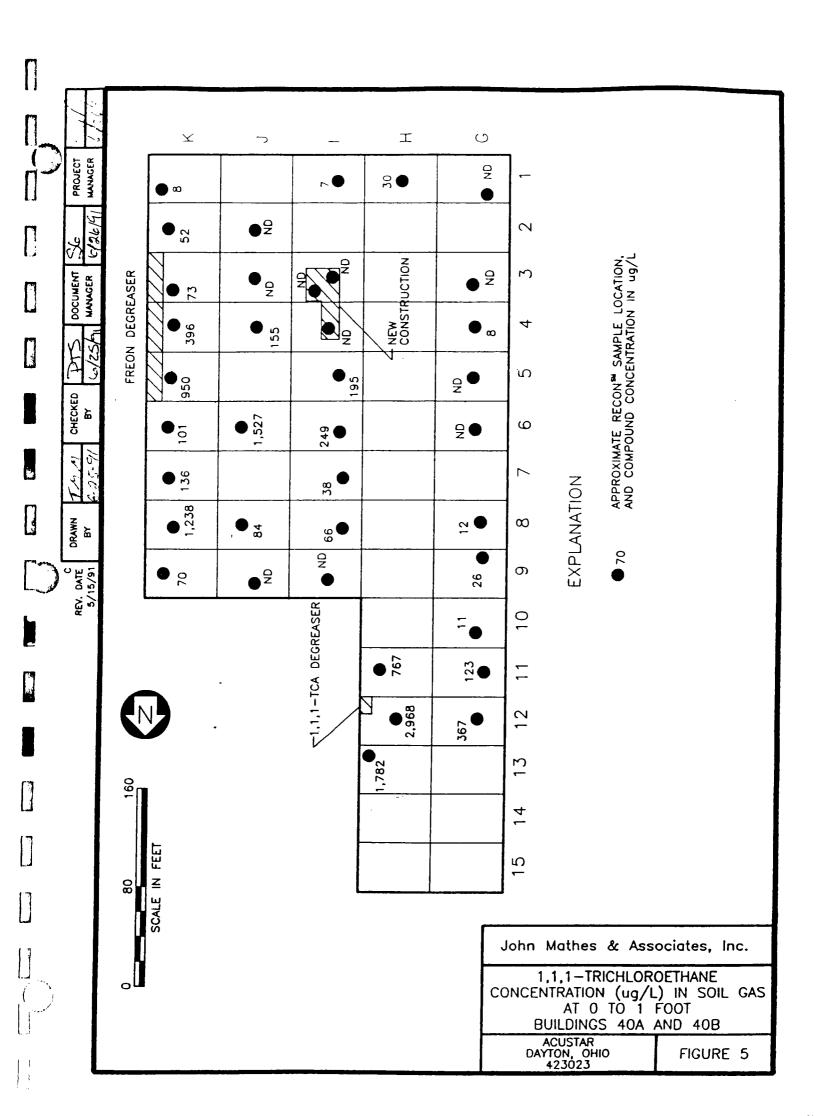
42	Proposed Locations for Horizontal Vapor Removal Lines in Building 40A
43	Cross Sectional Diagram of Proposed Venting System
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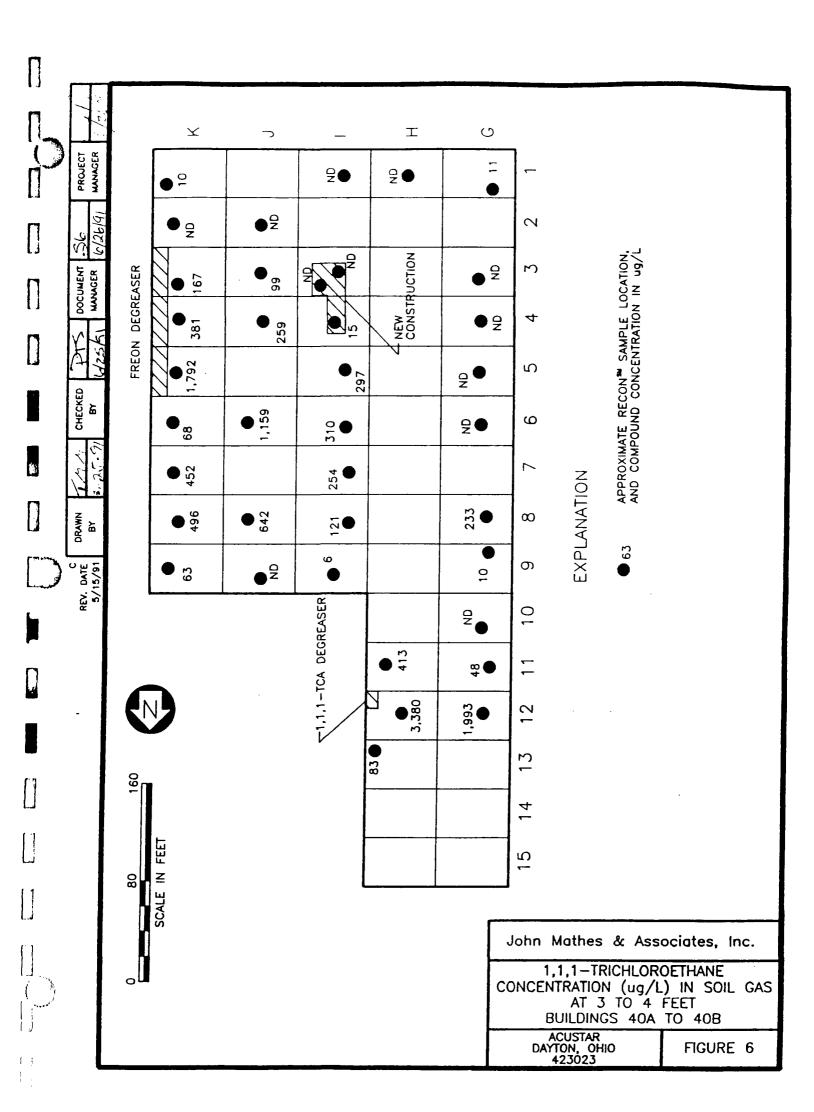


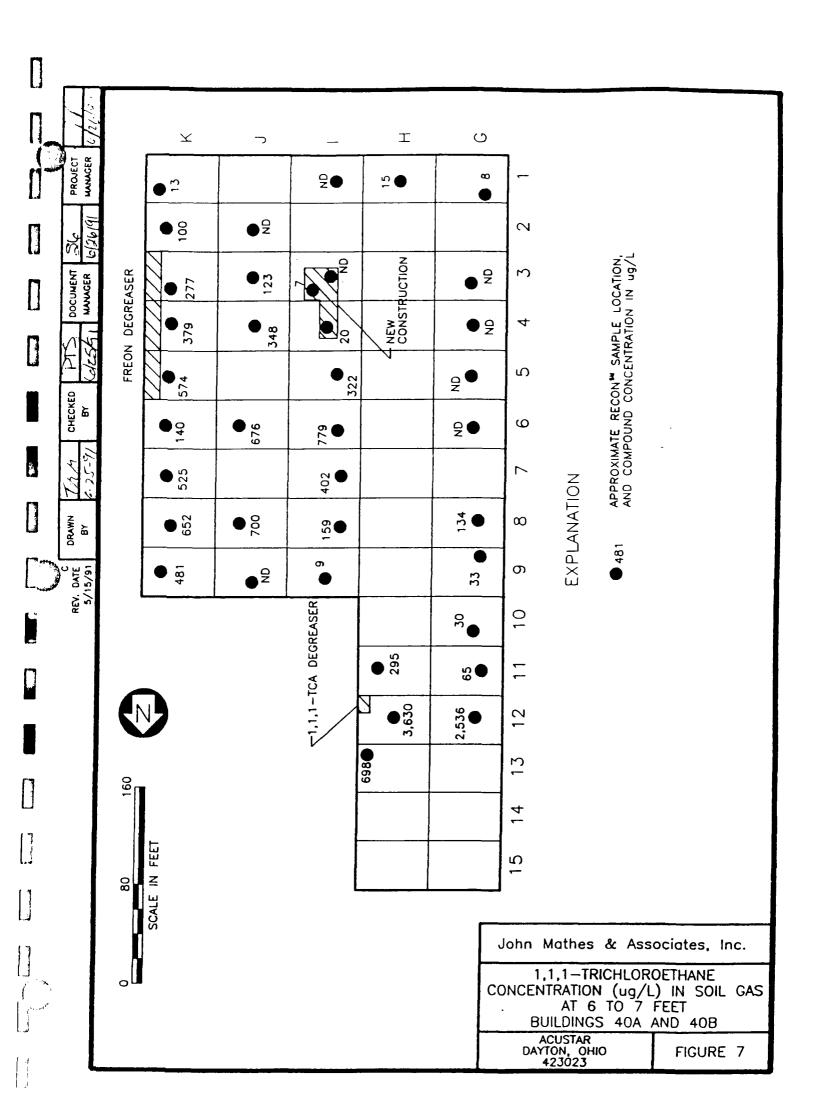


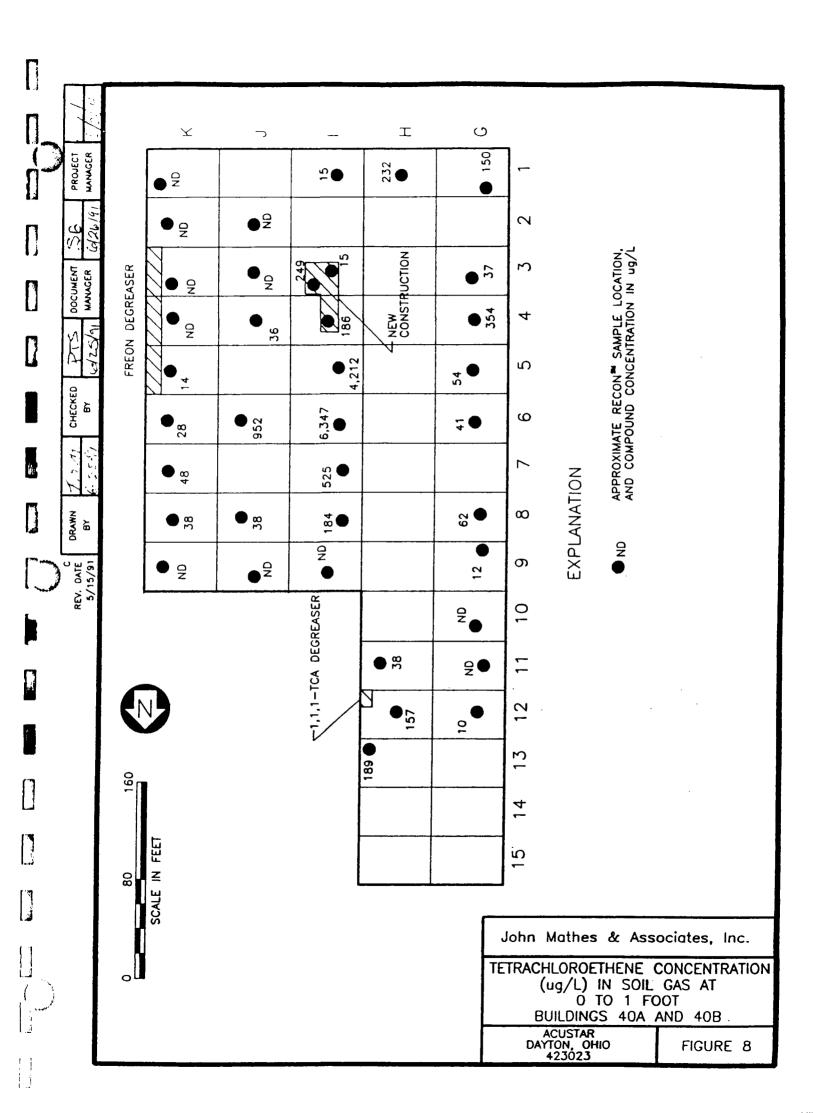


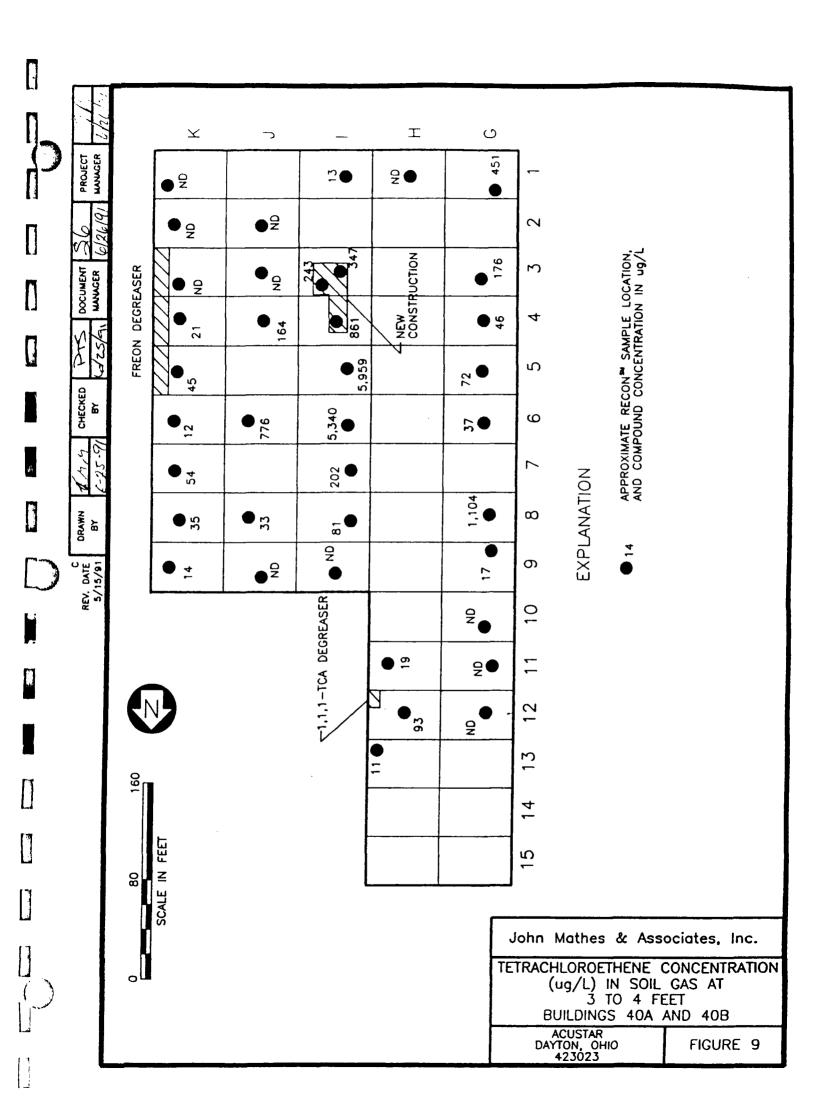


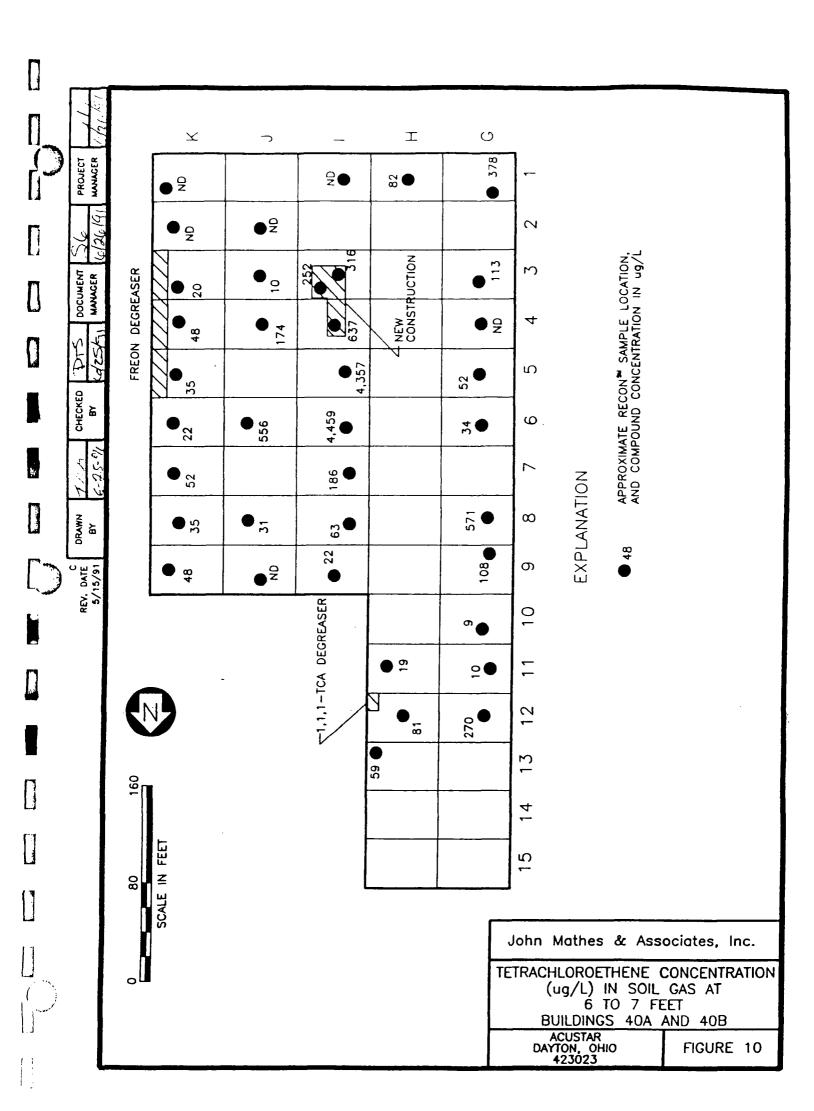


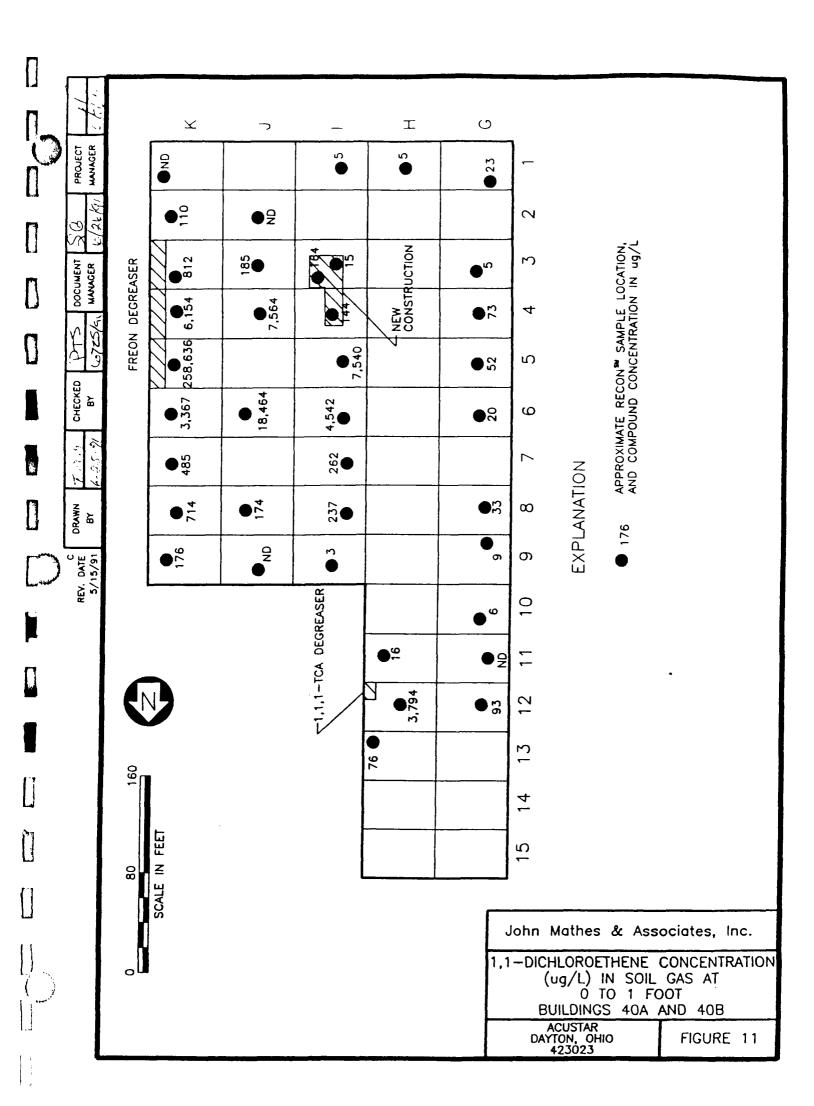


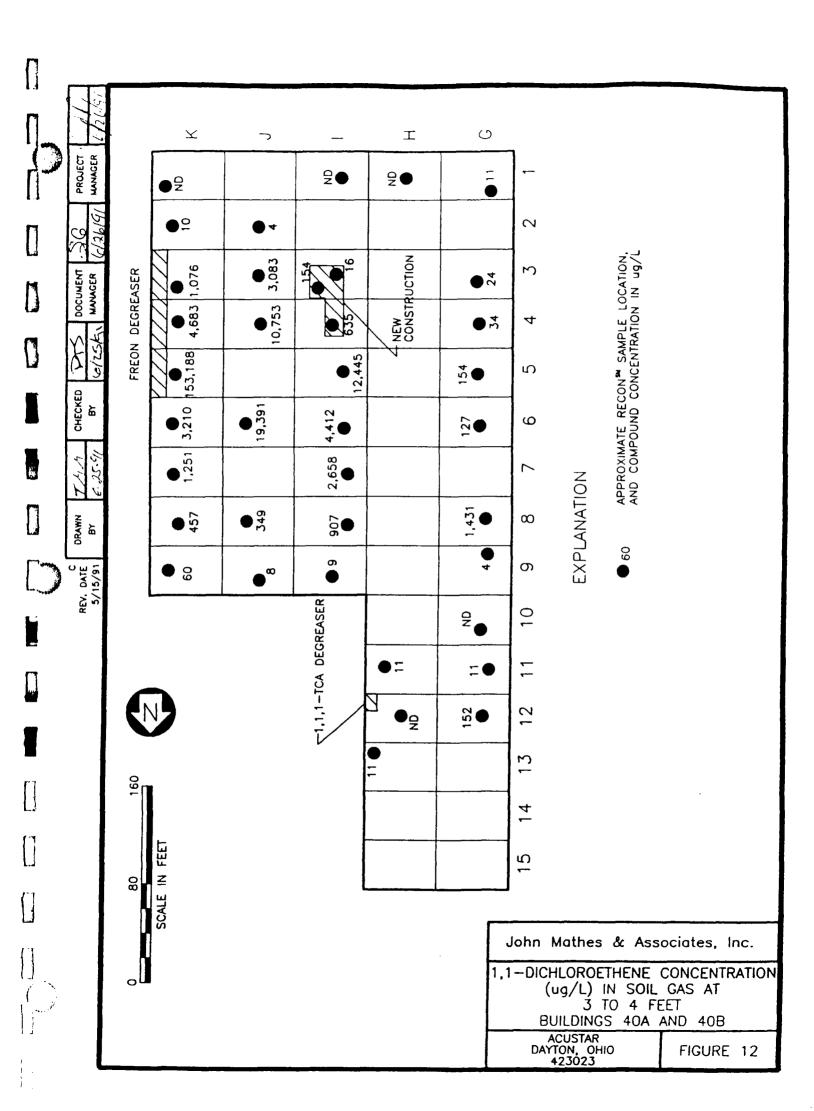


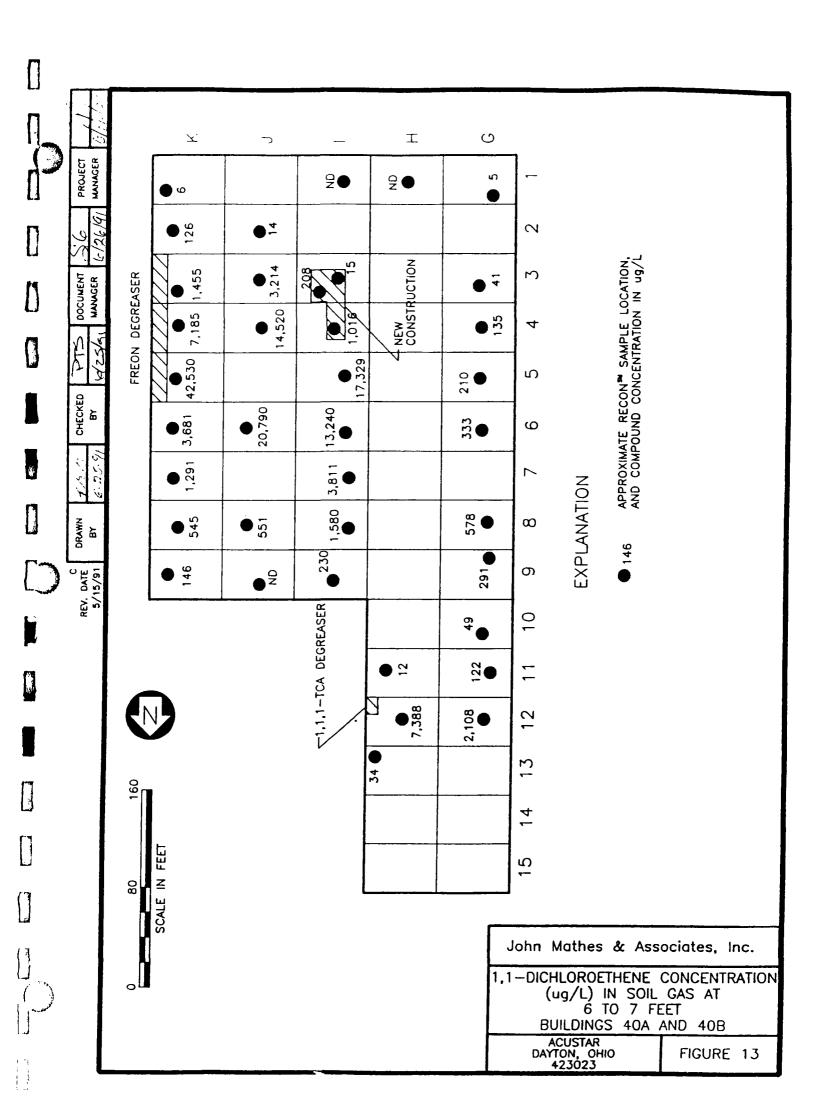


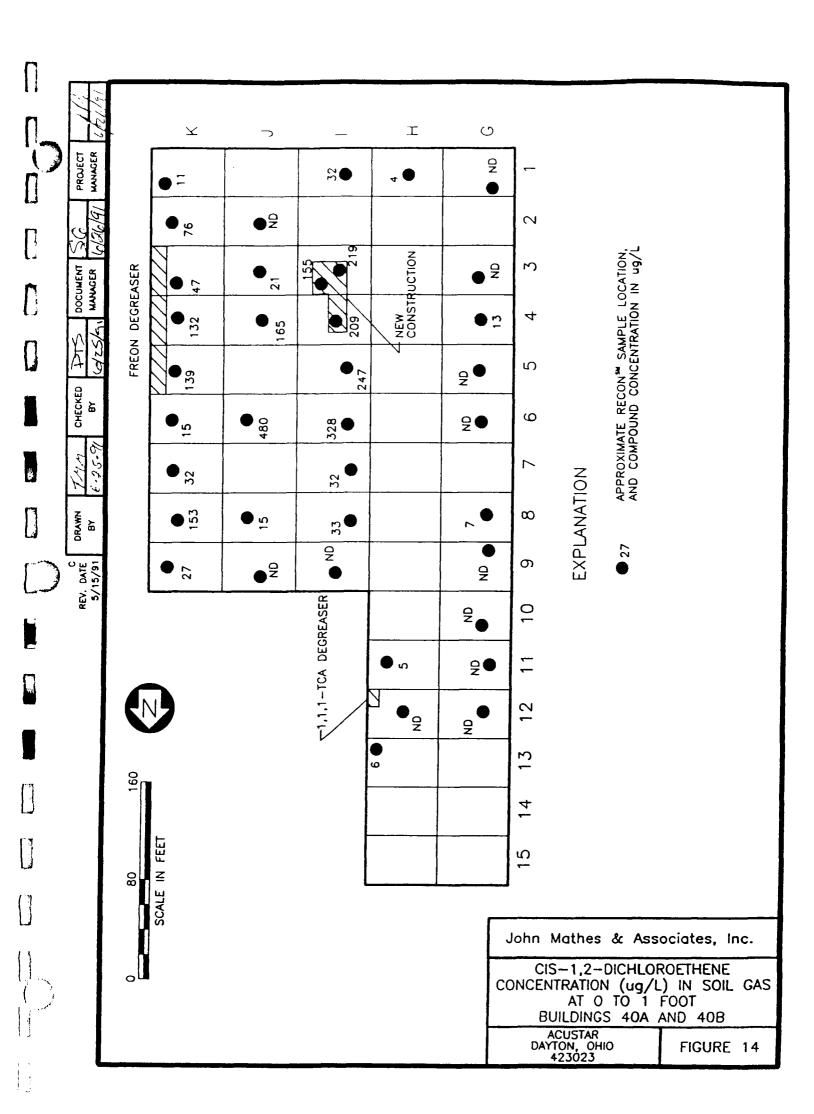


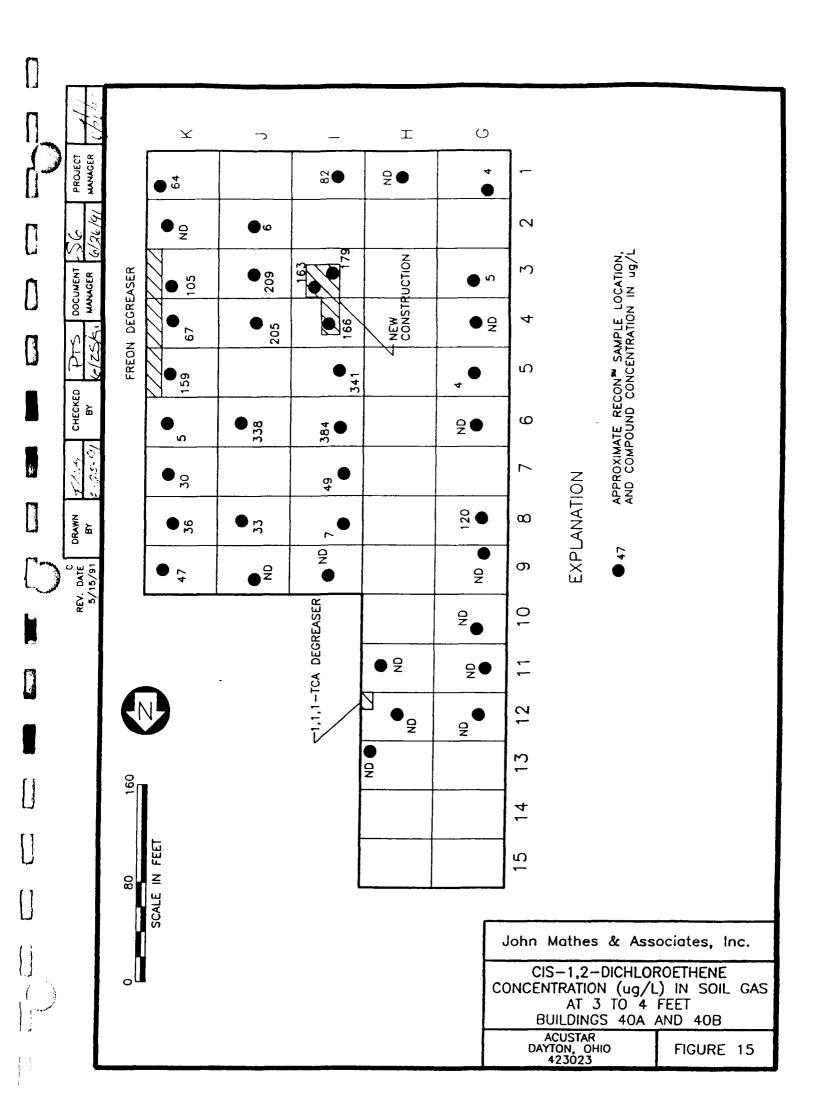


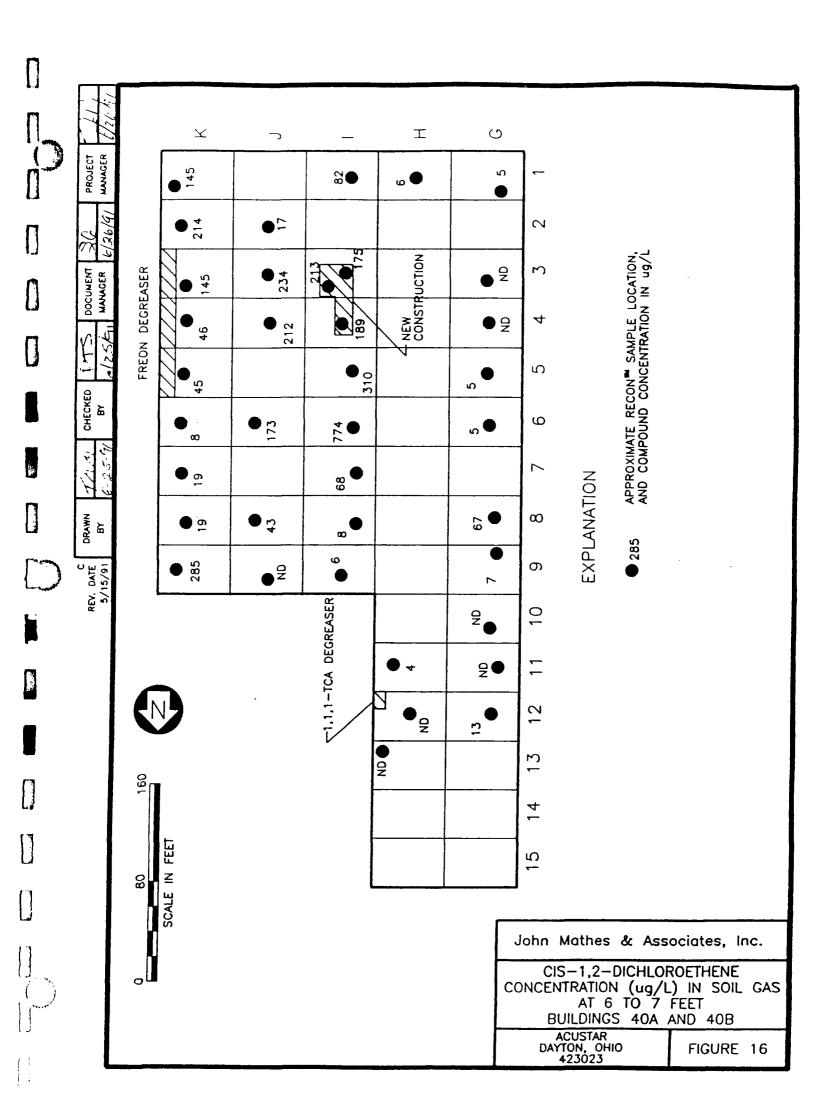


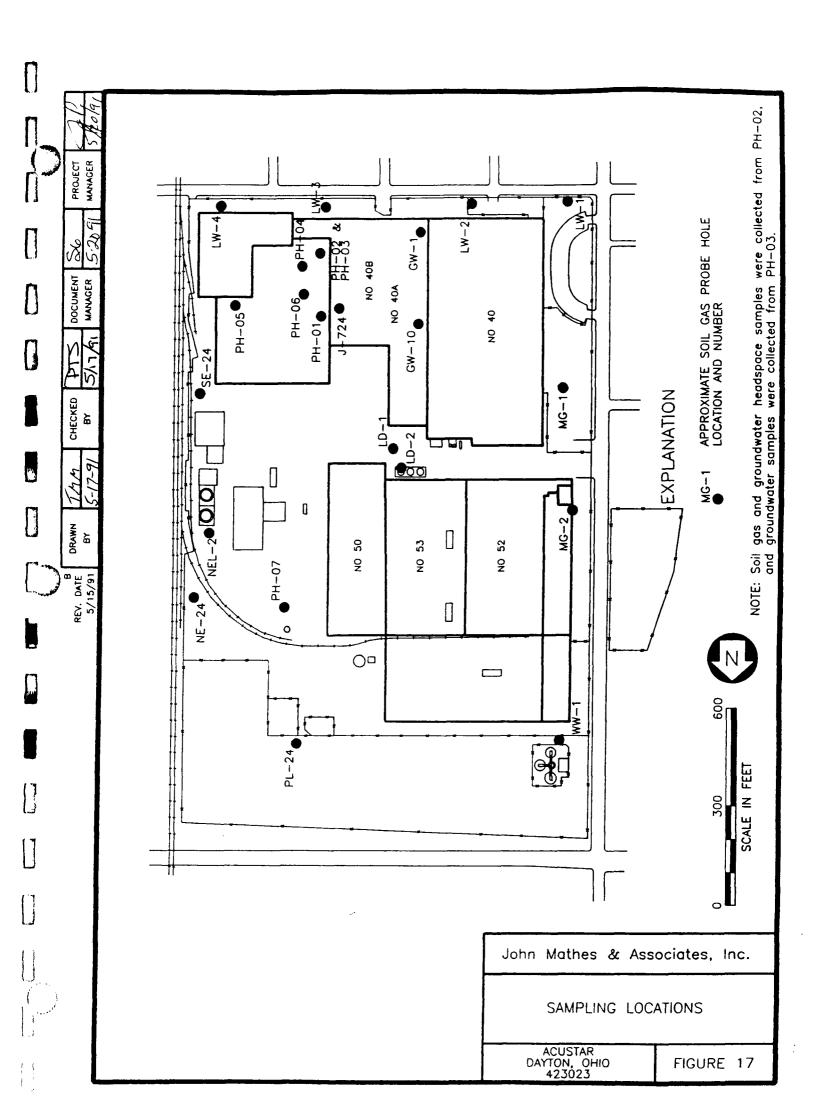


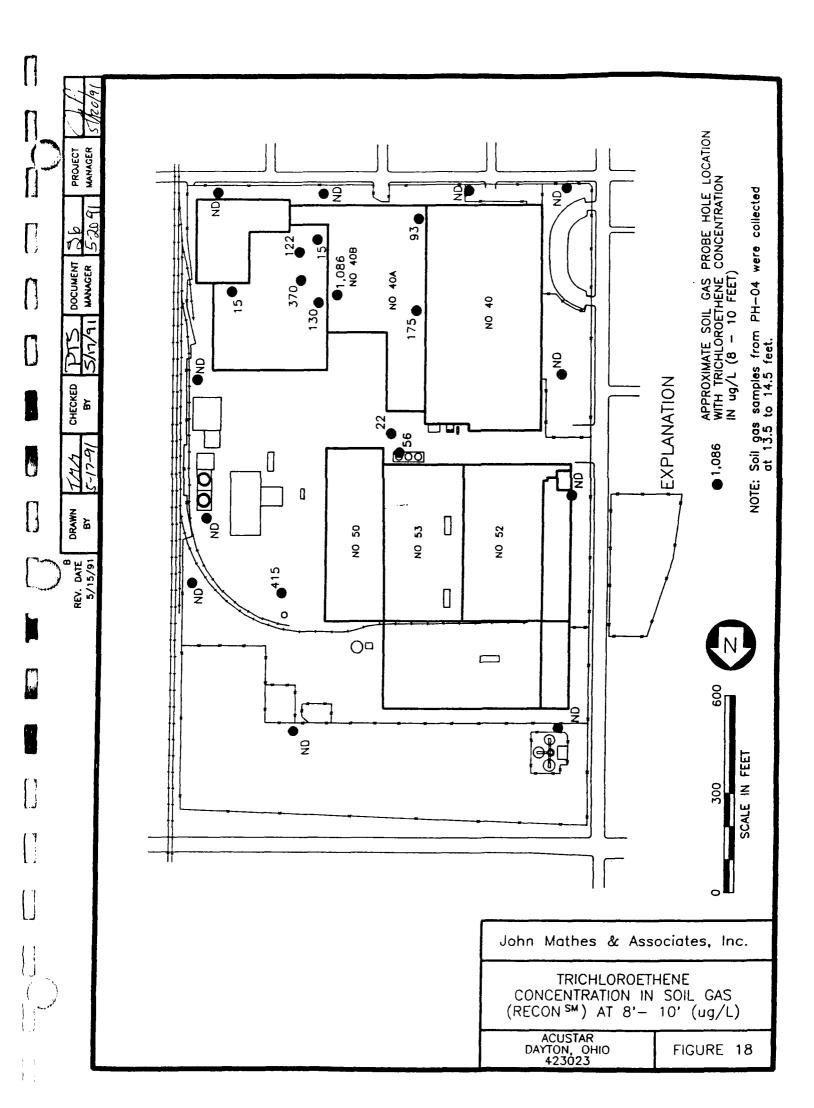


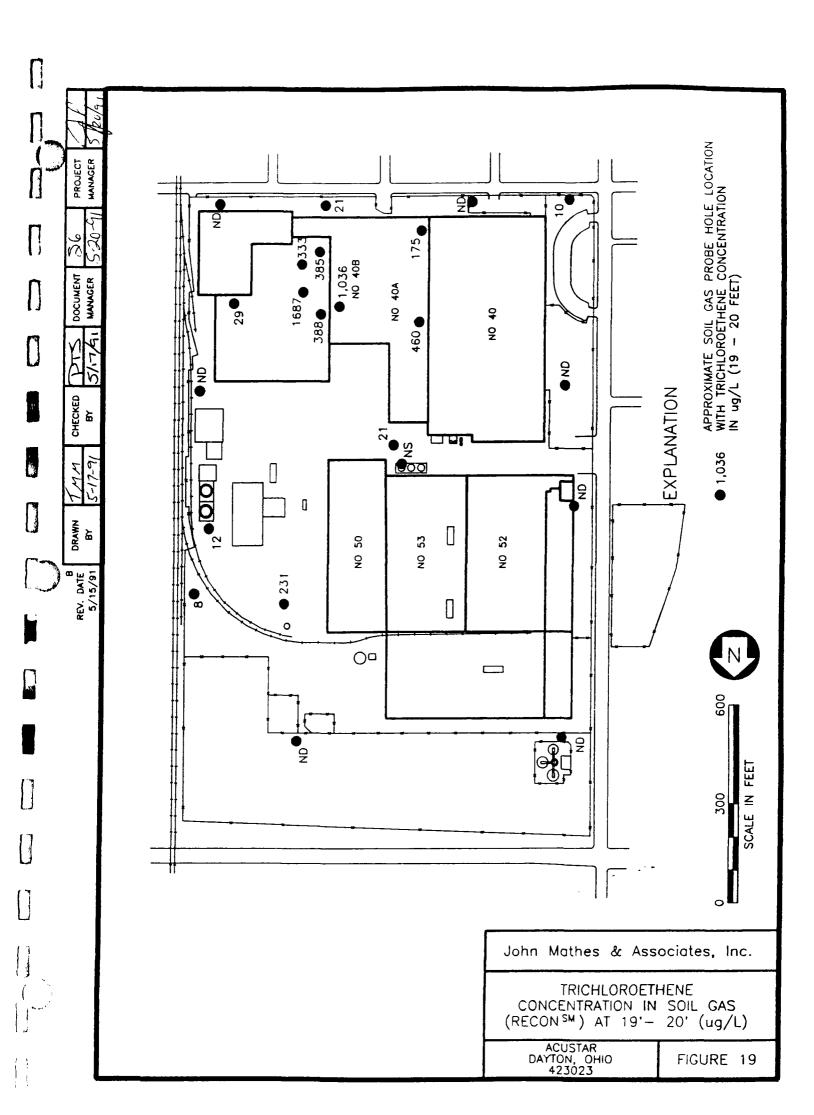


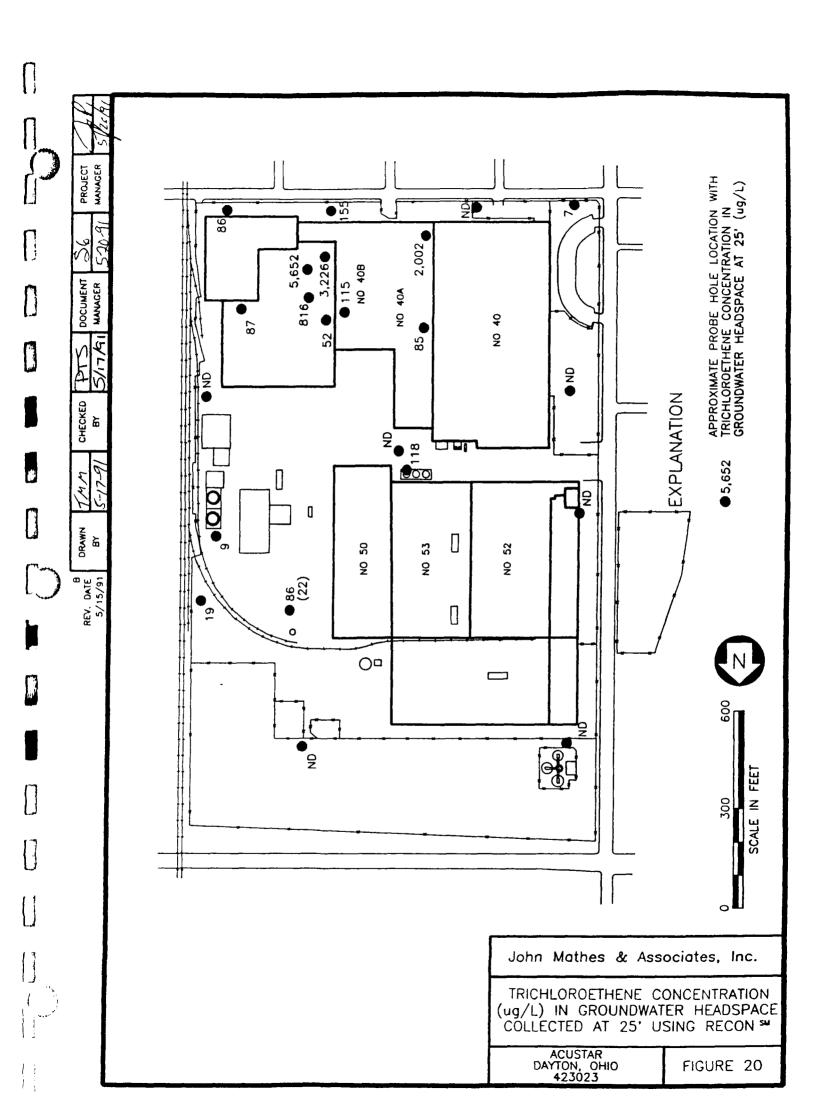


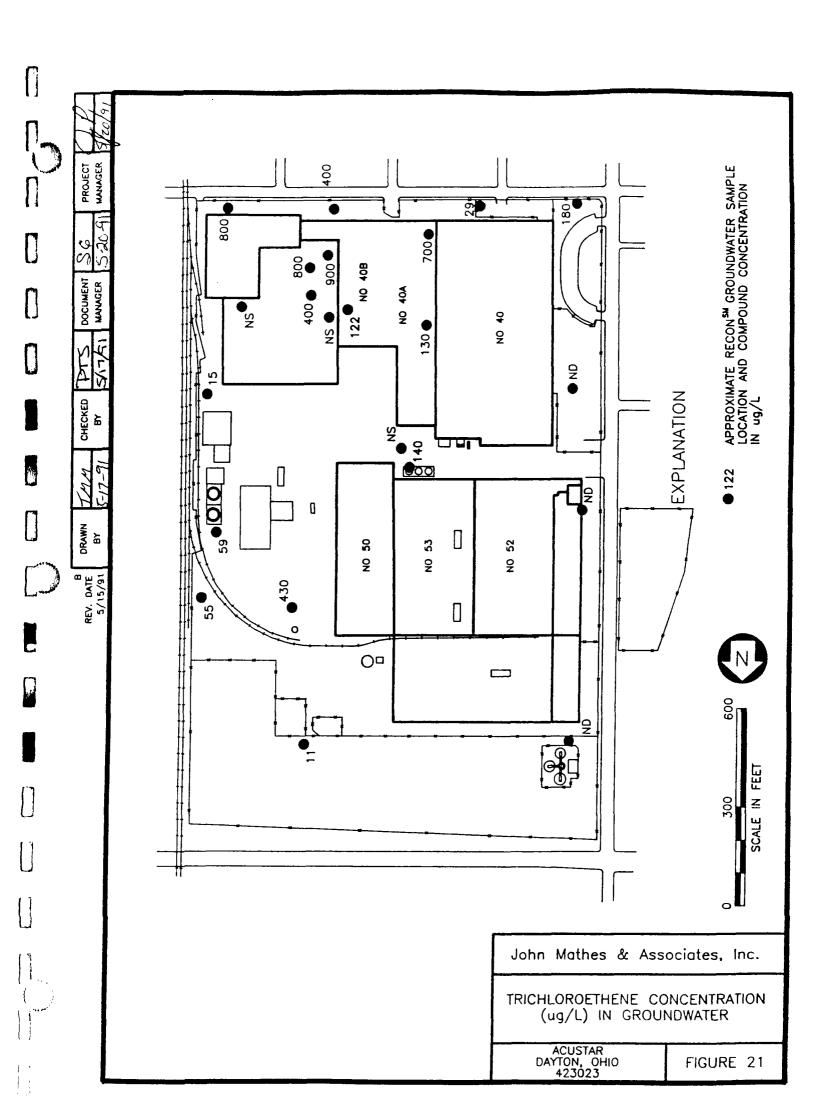


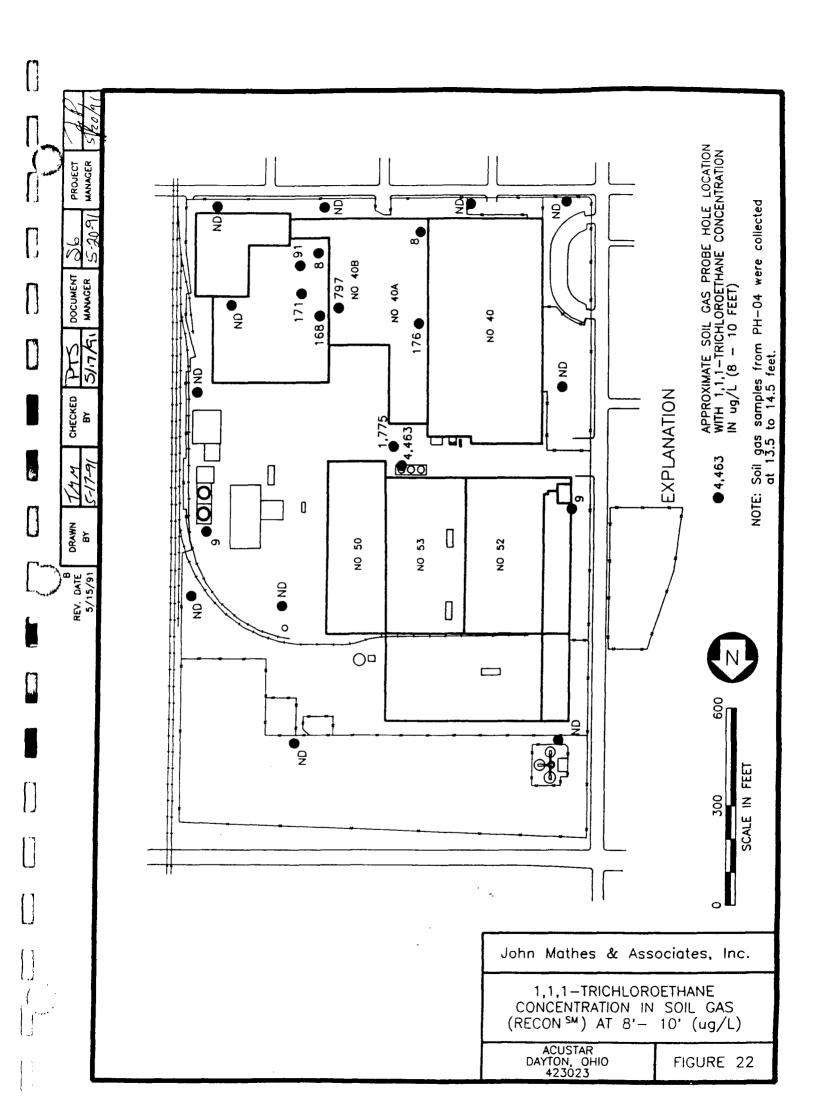


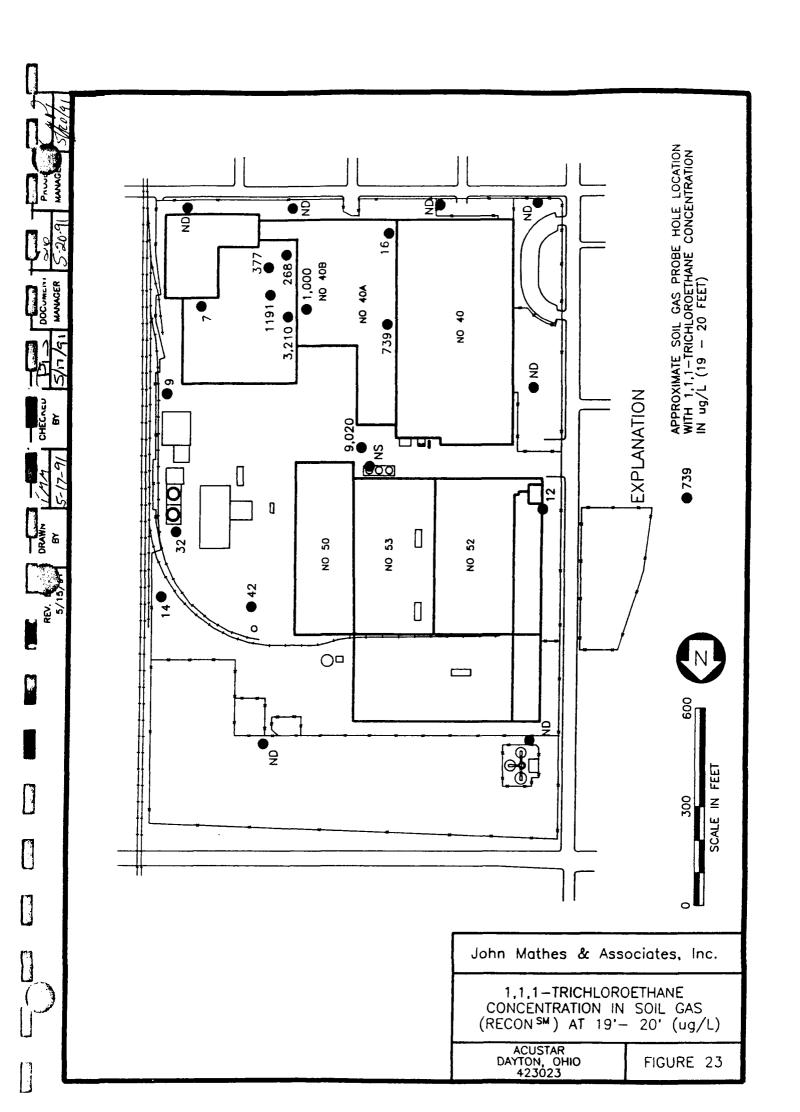


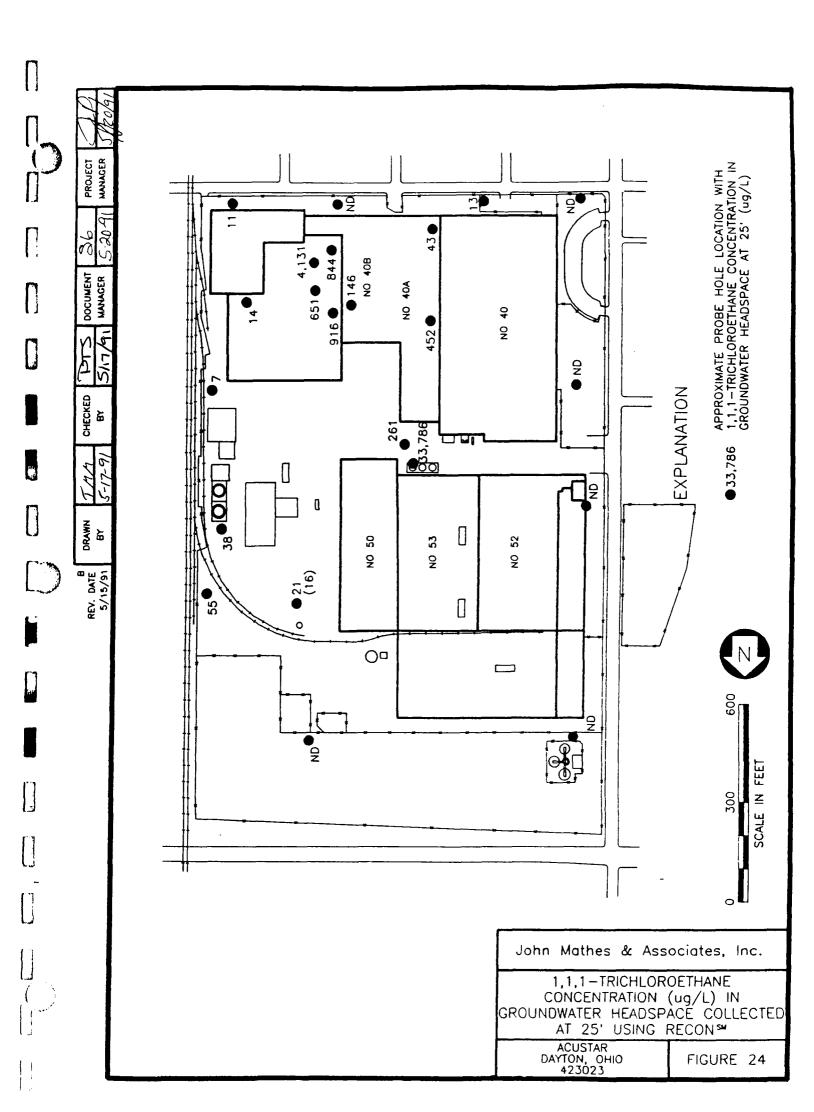


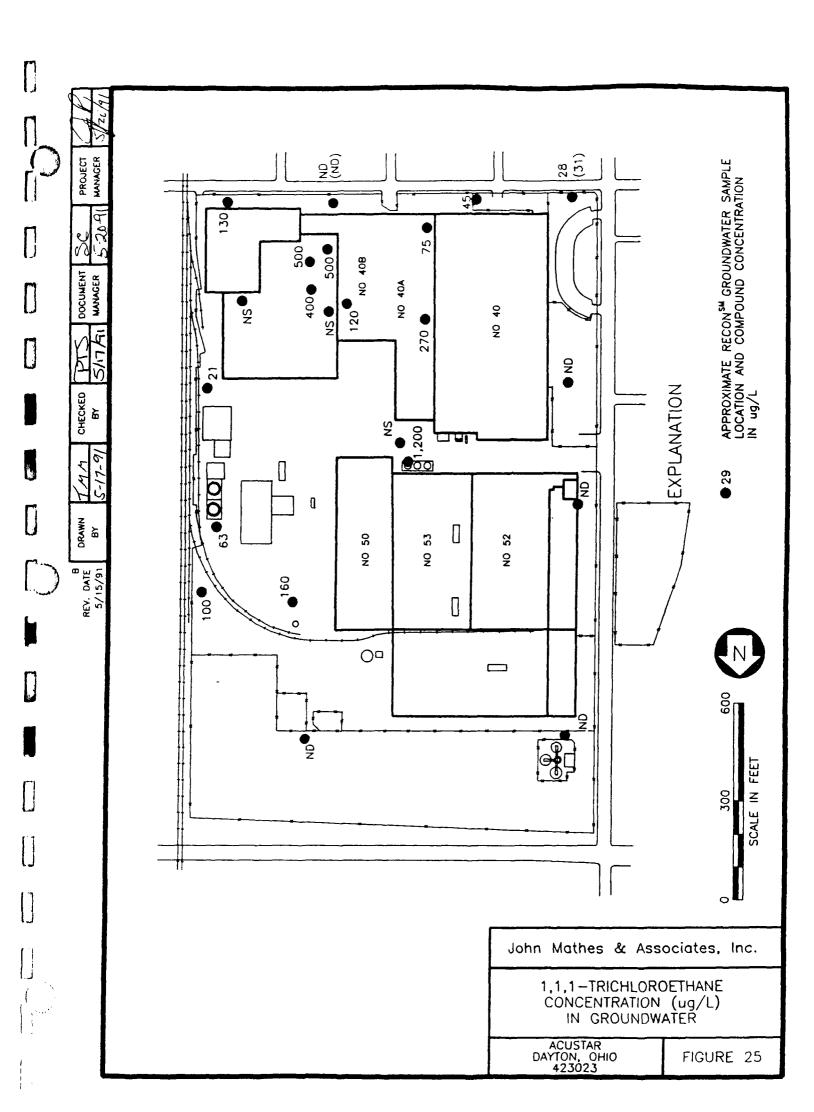


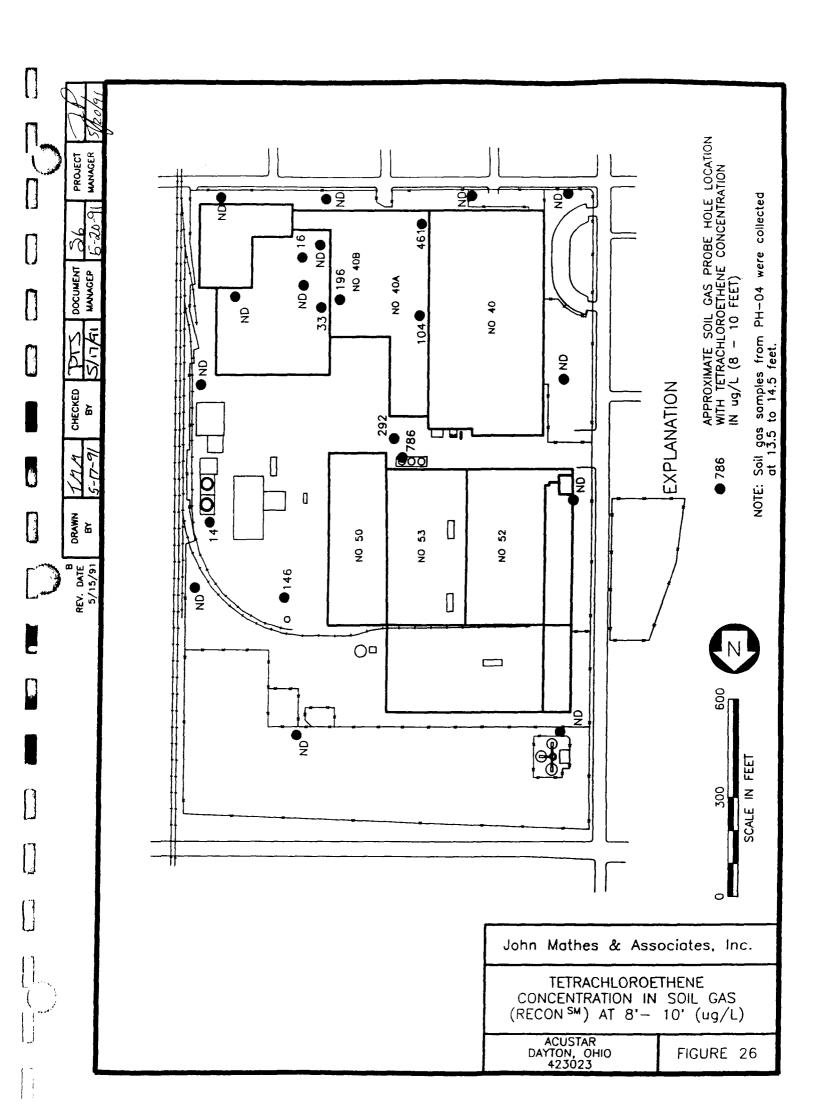


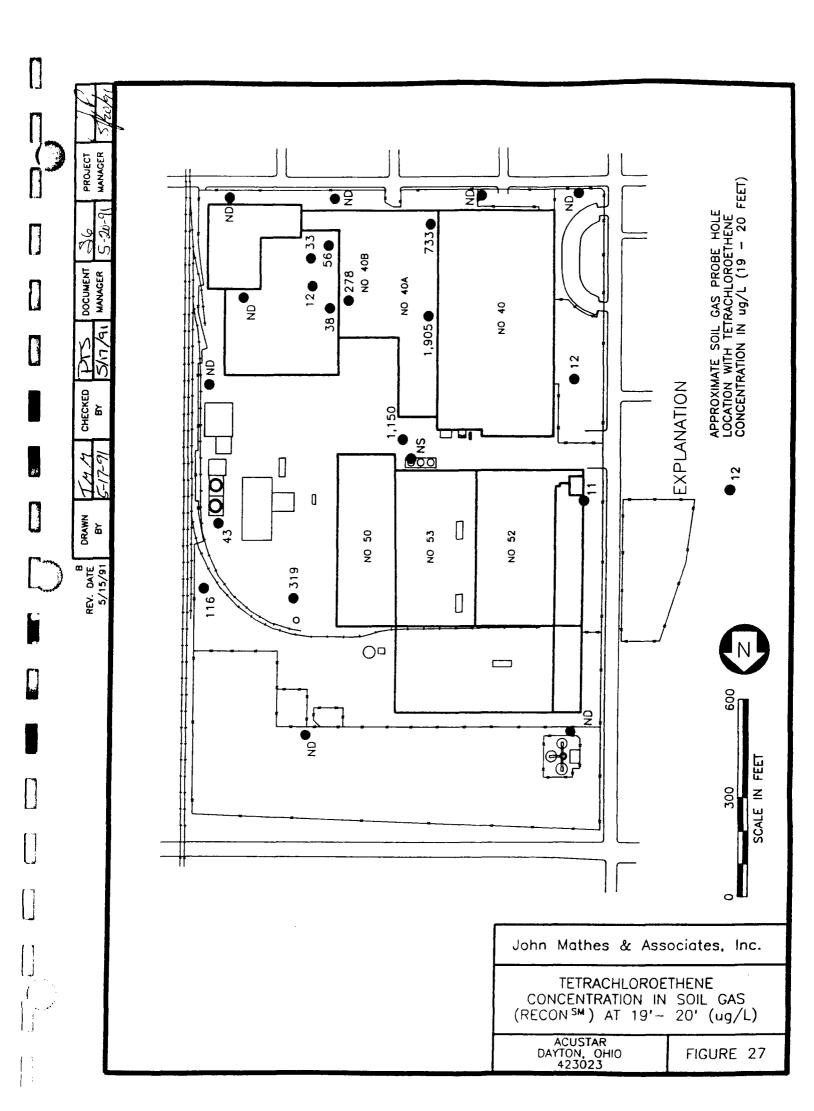


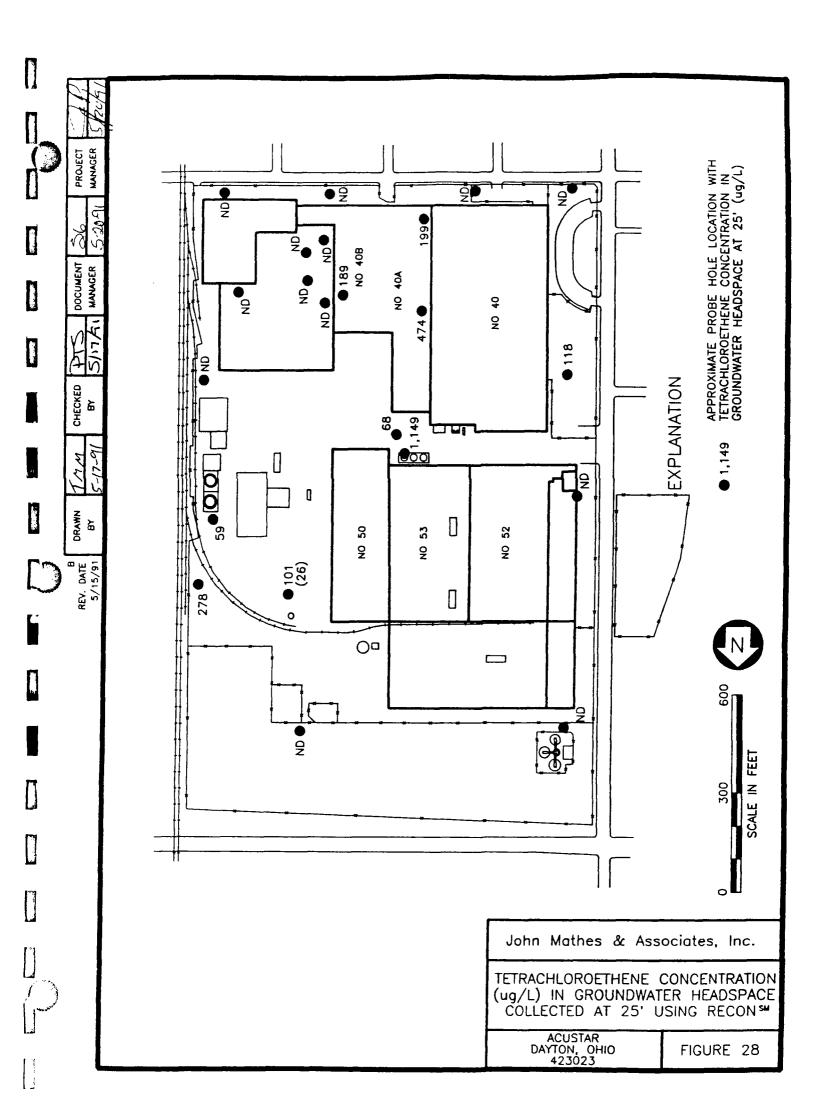


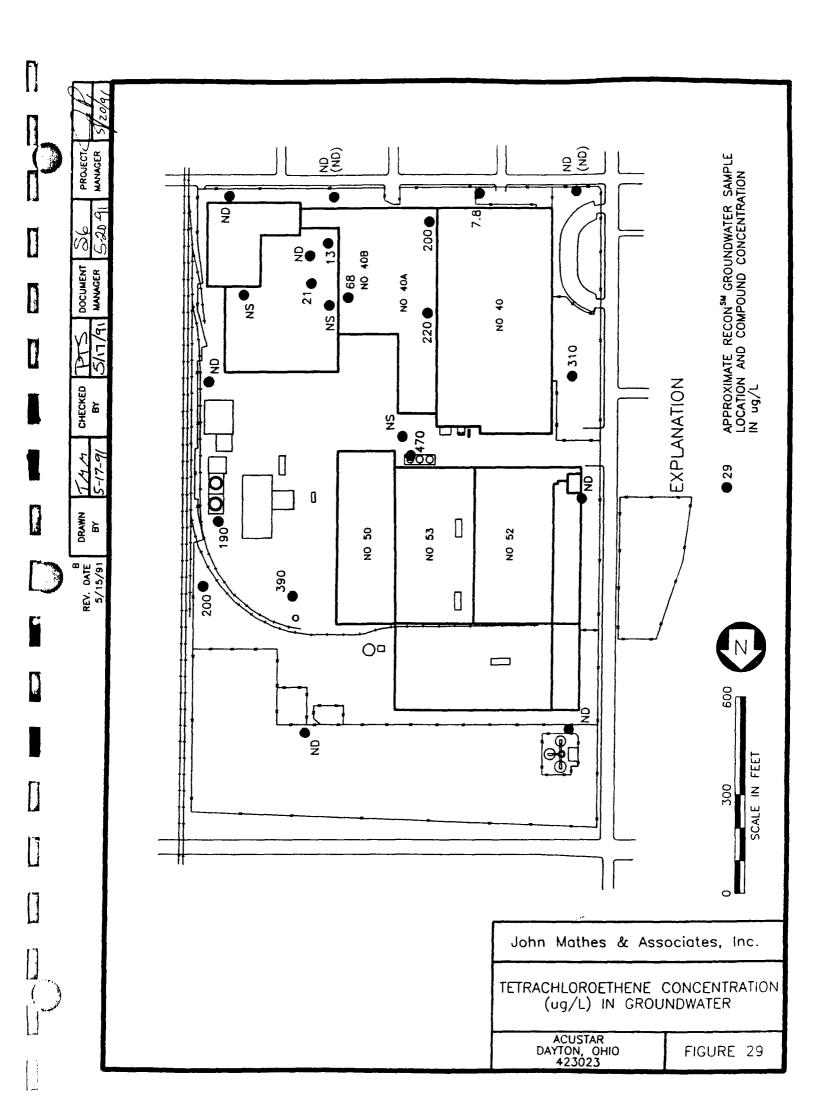


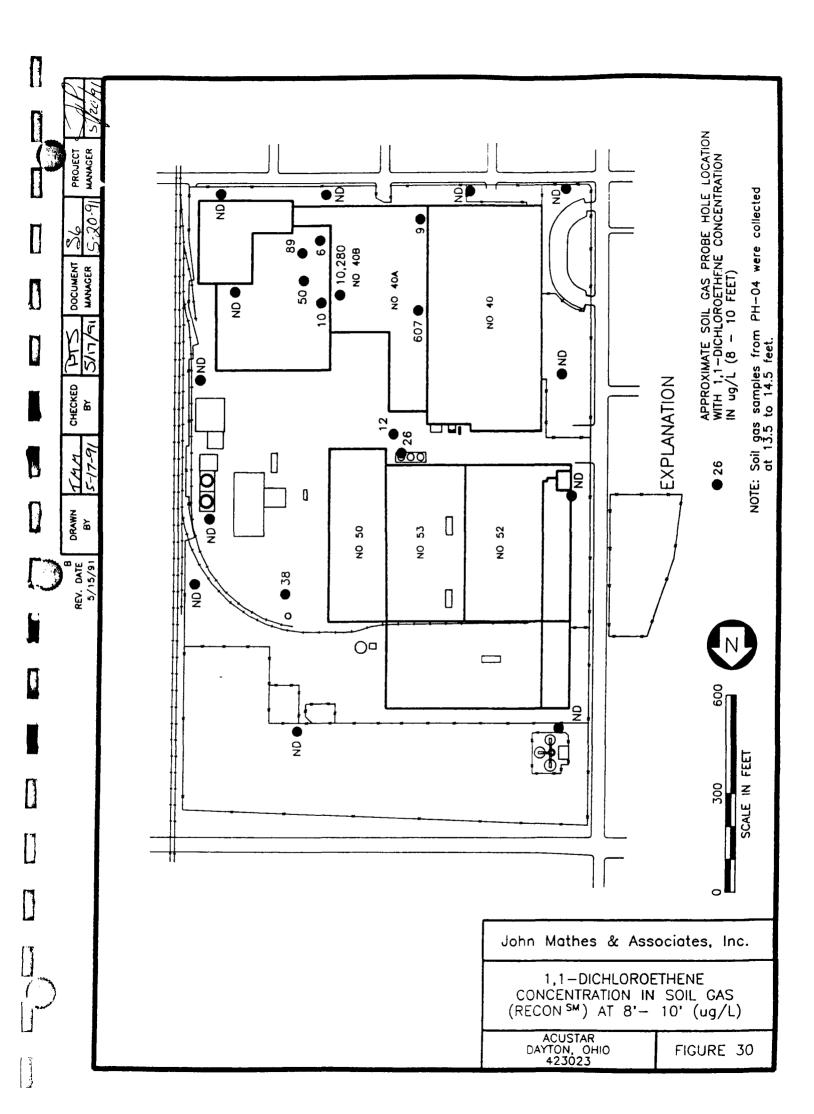


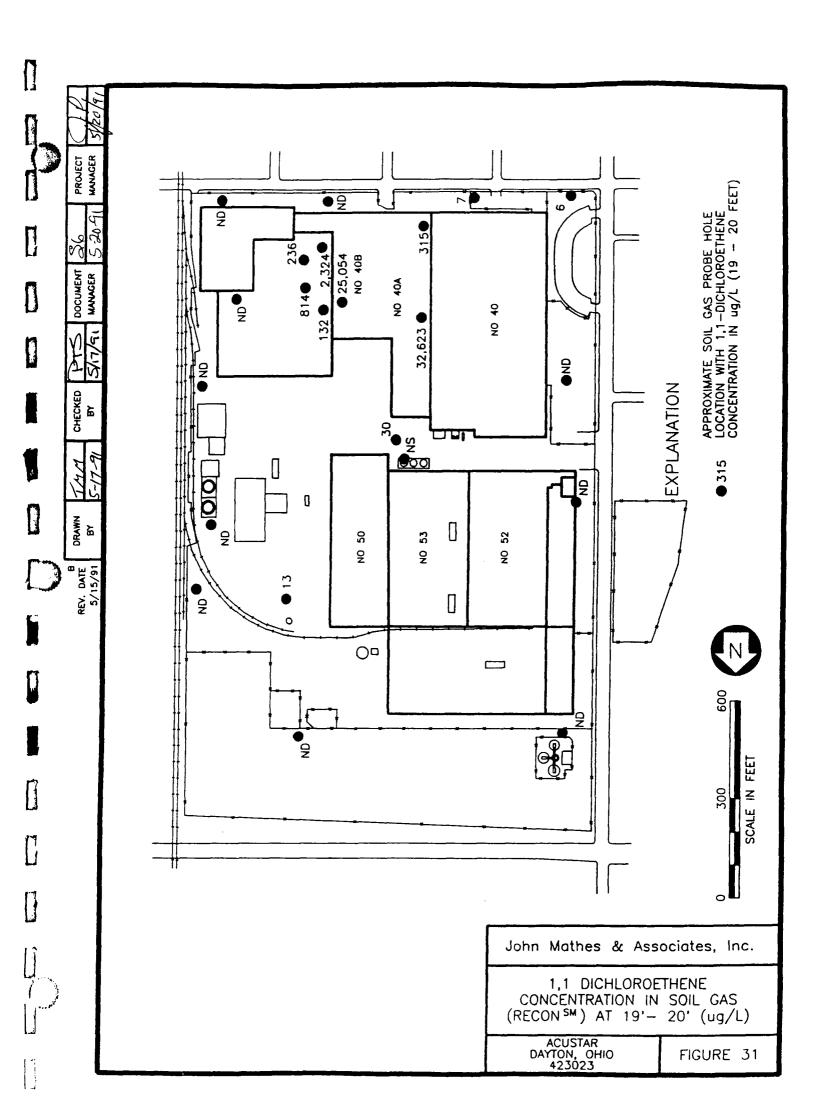


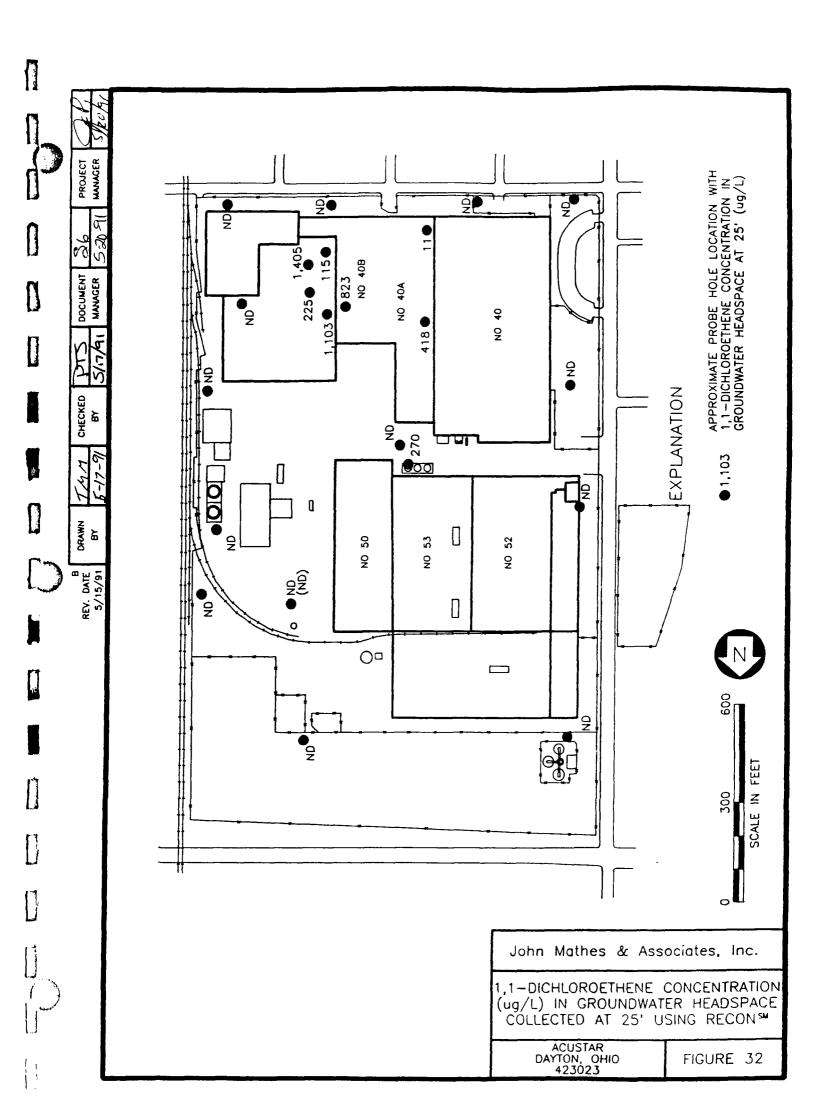


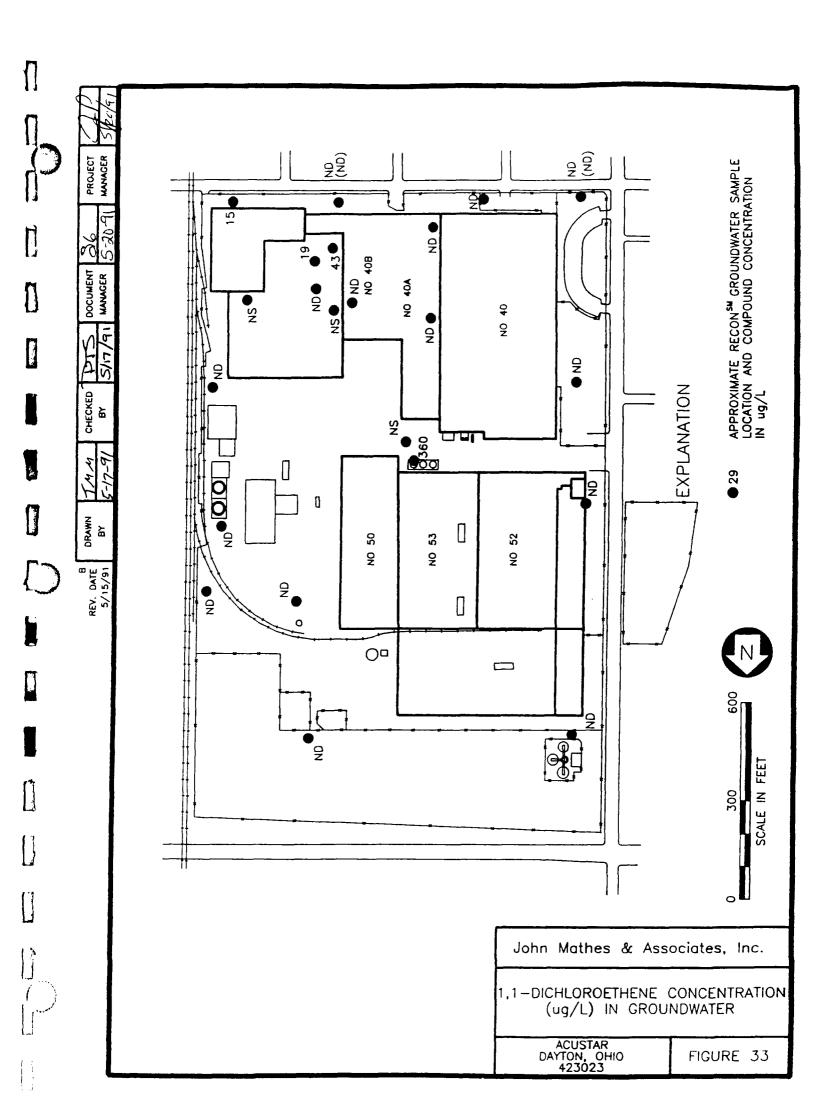


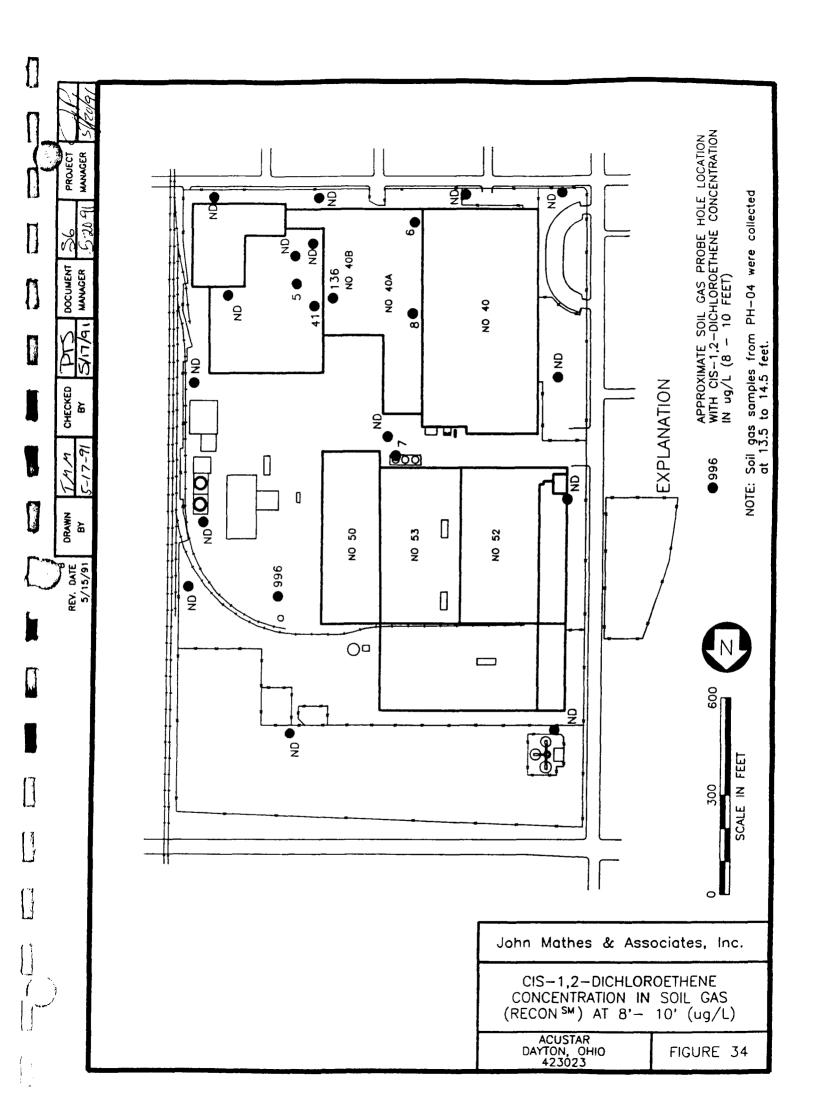


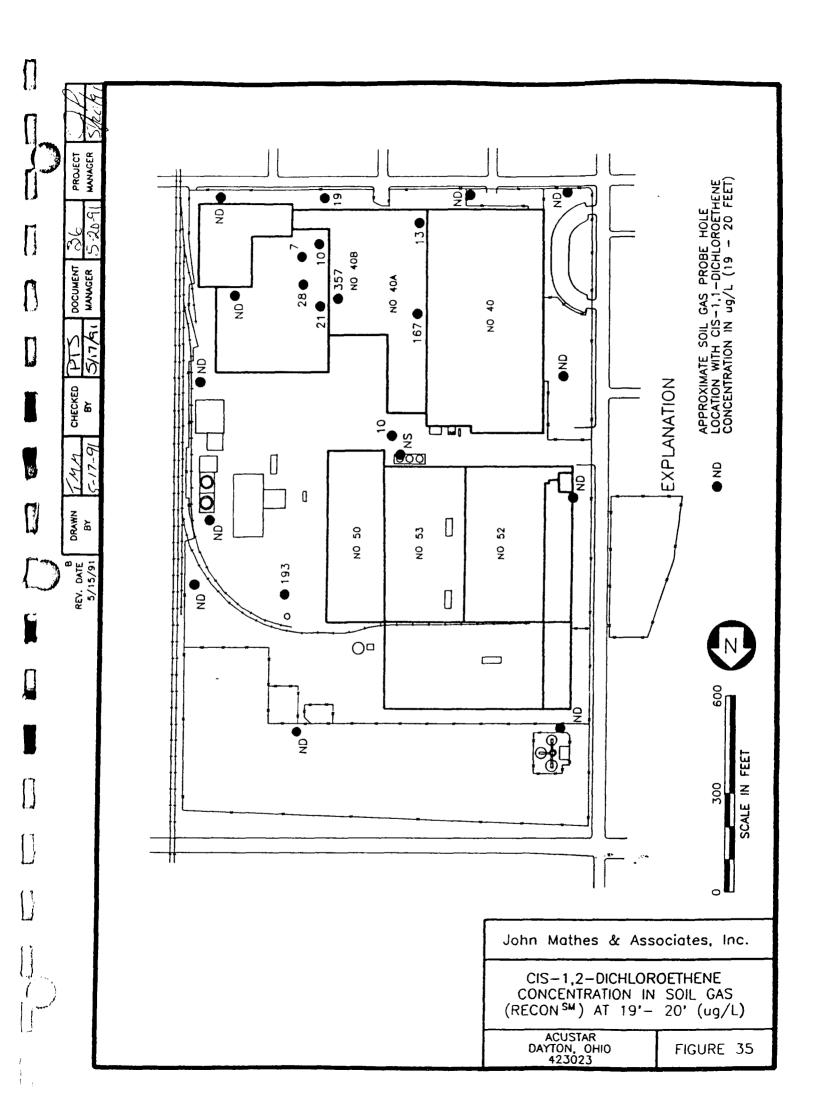


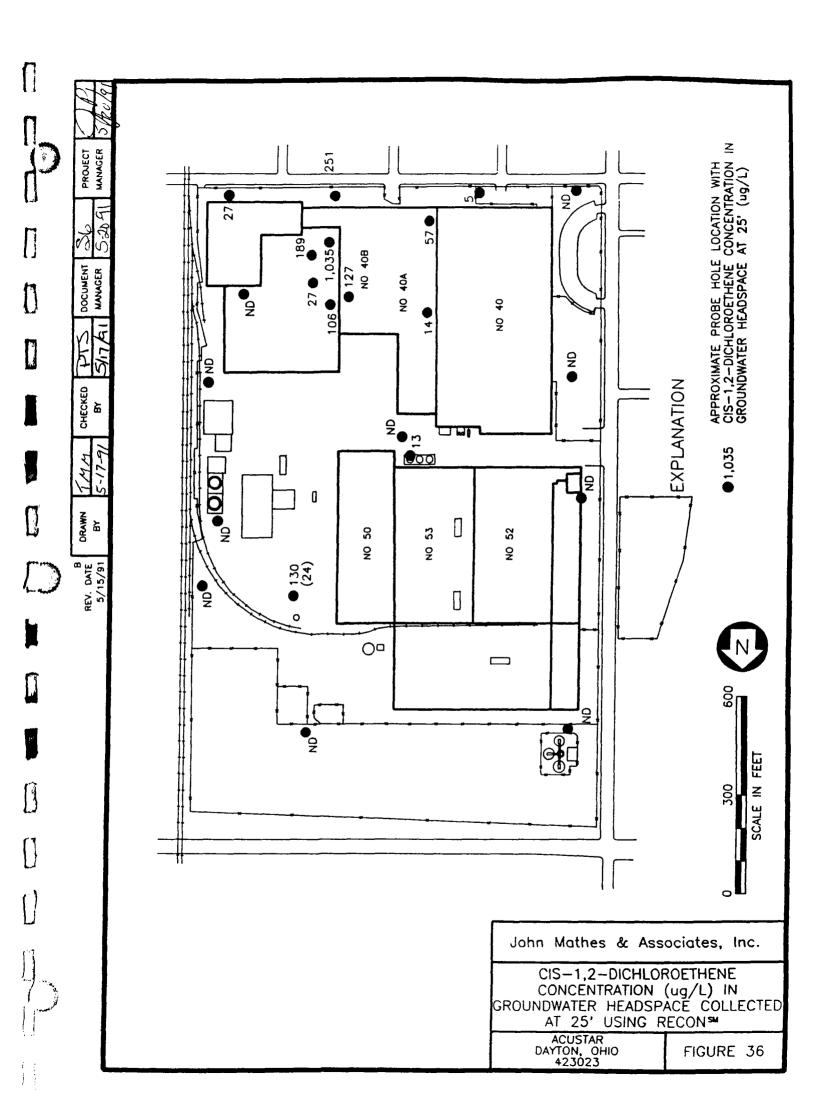


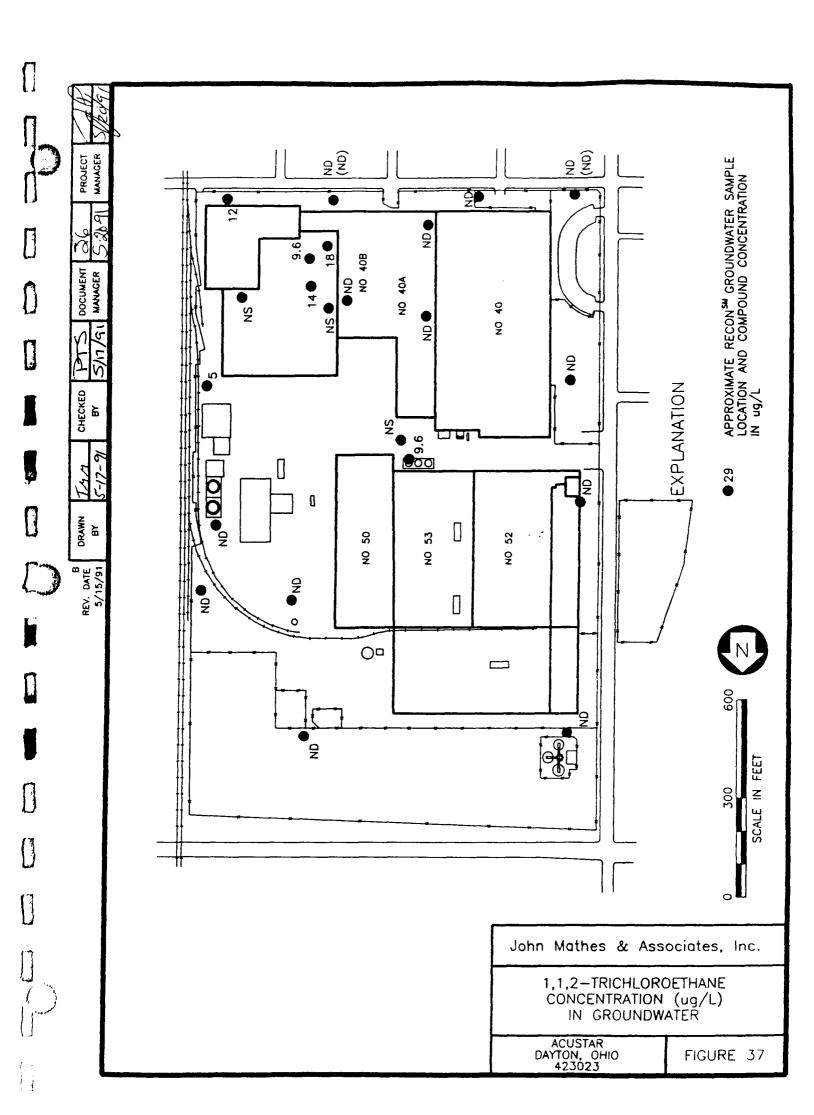


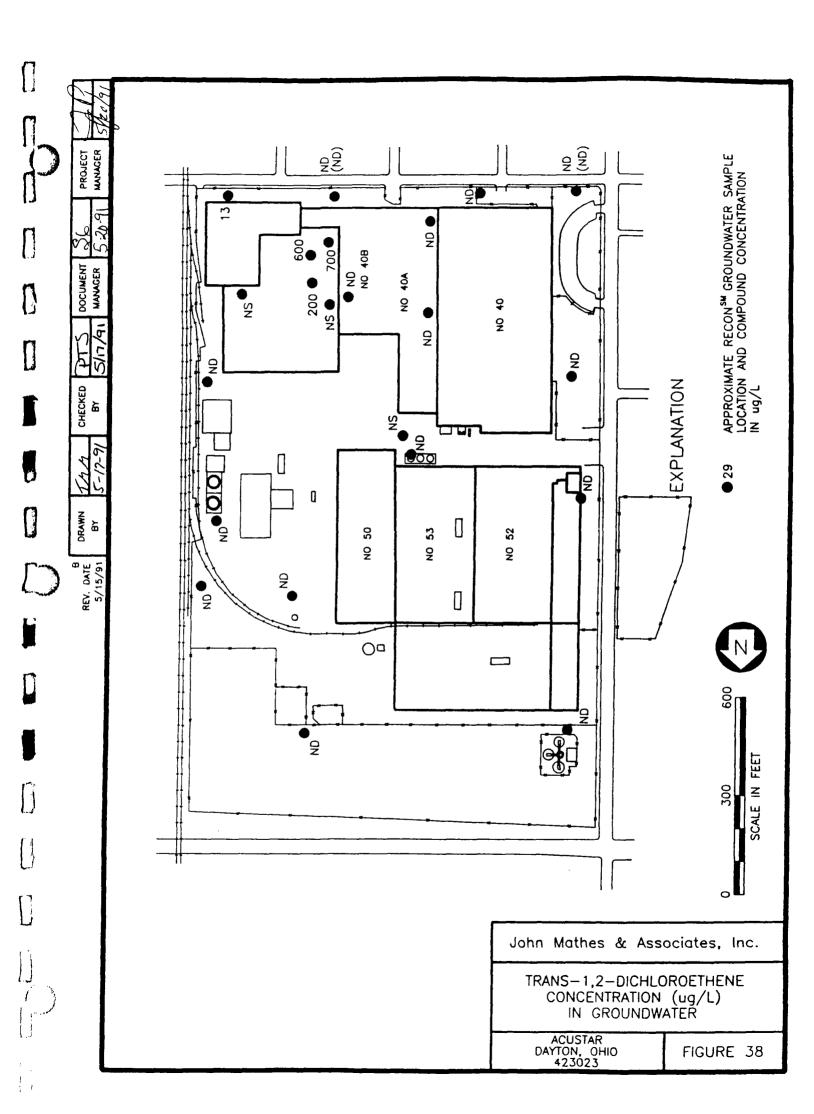


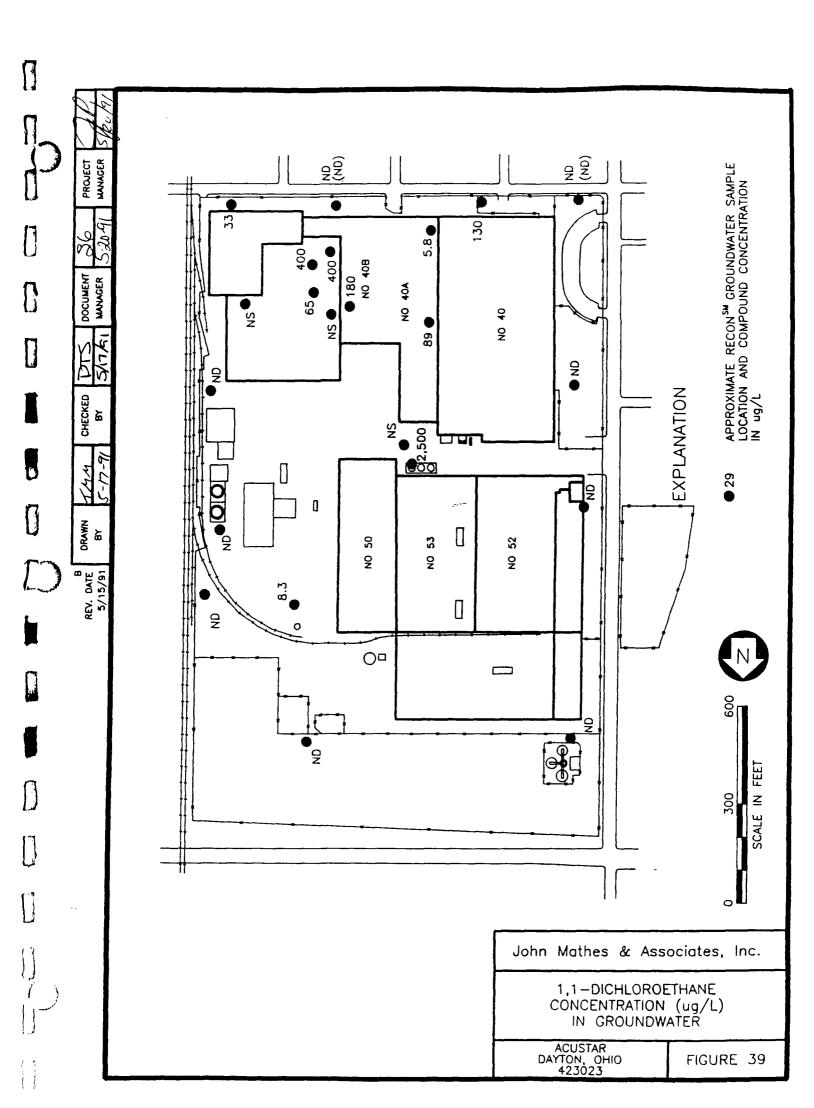


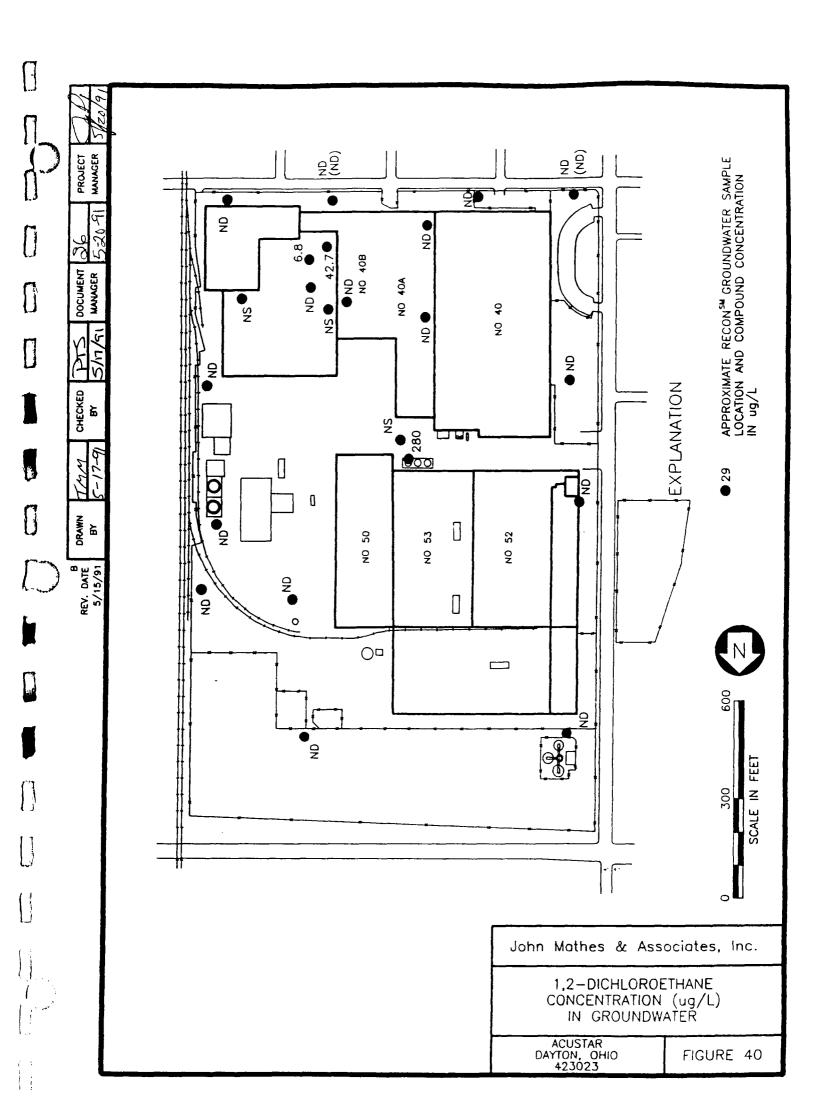


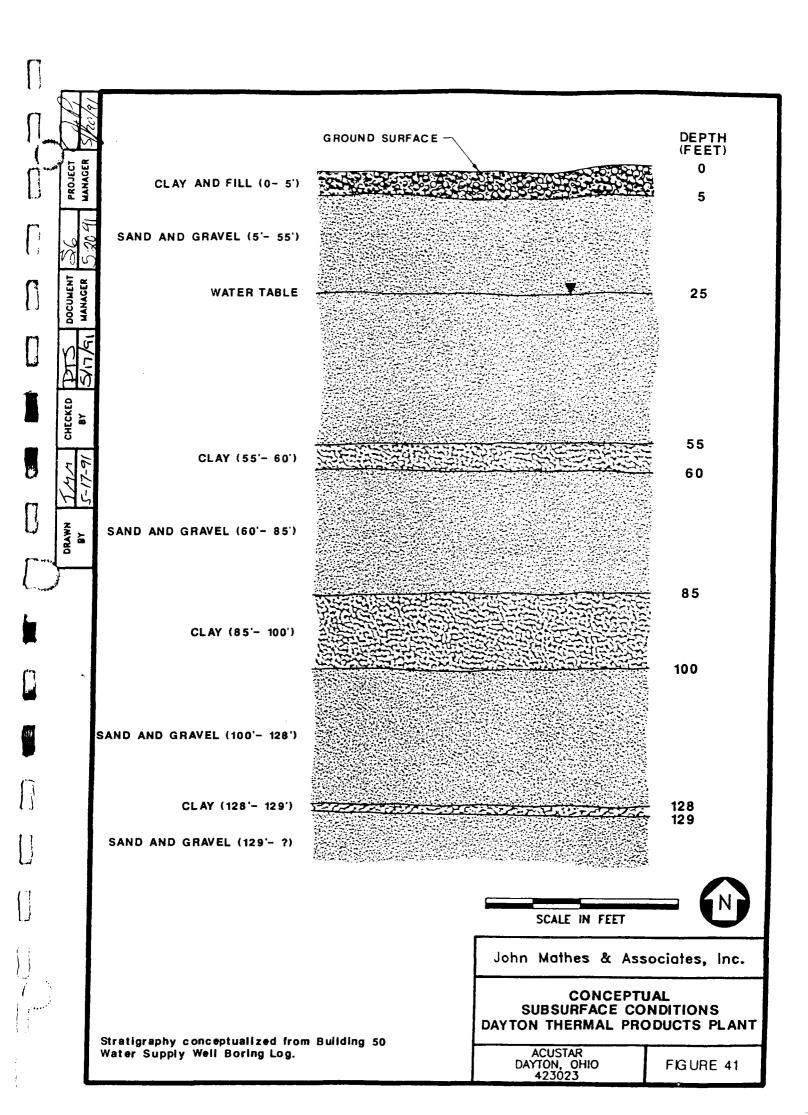


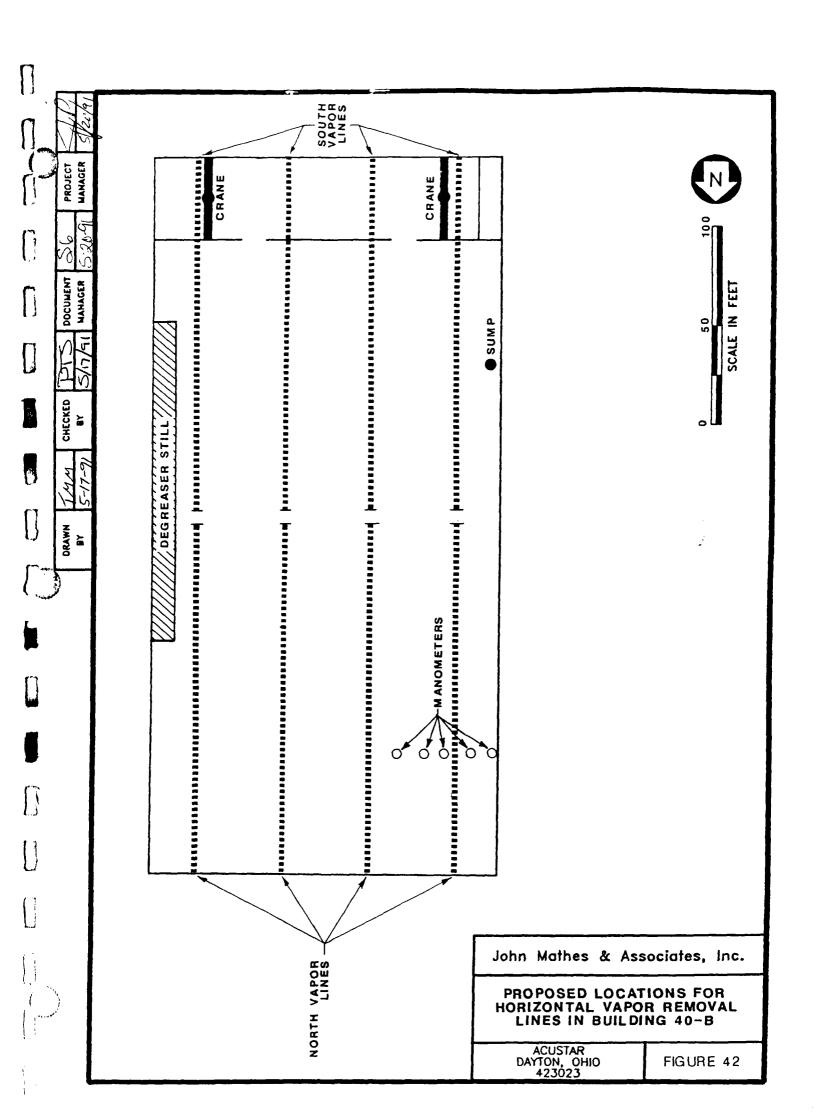


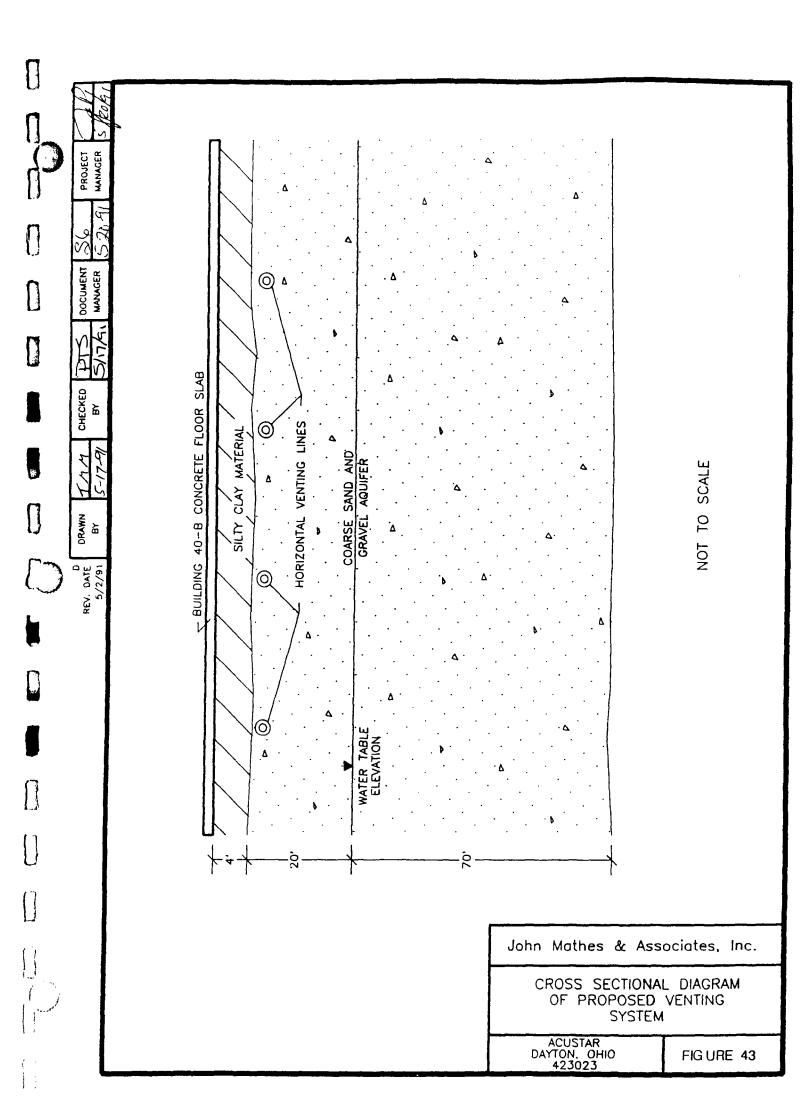


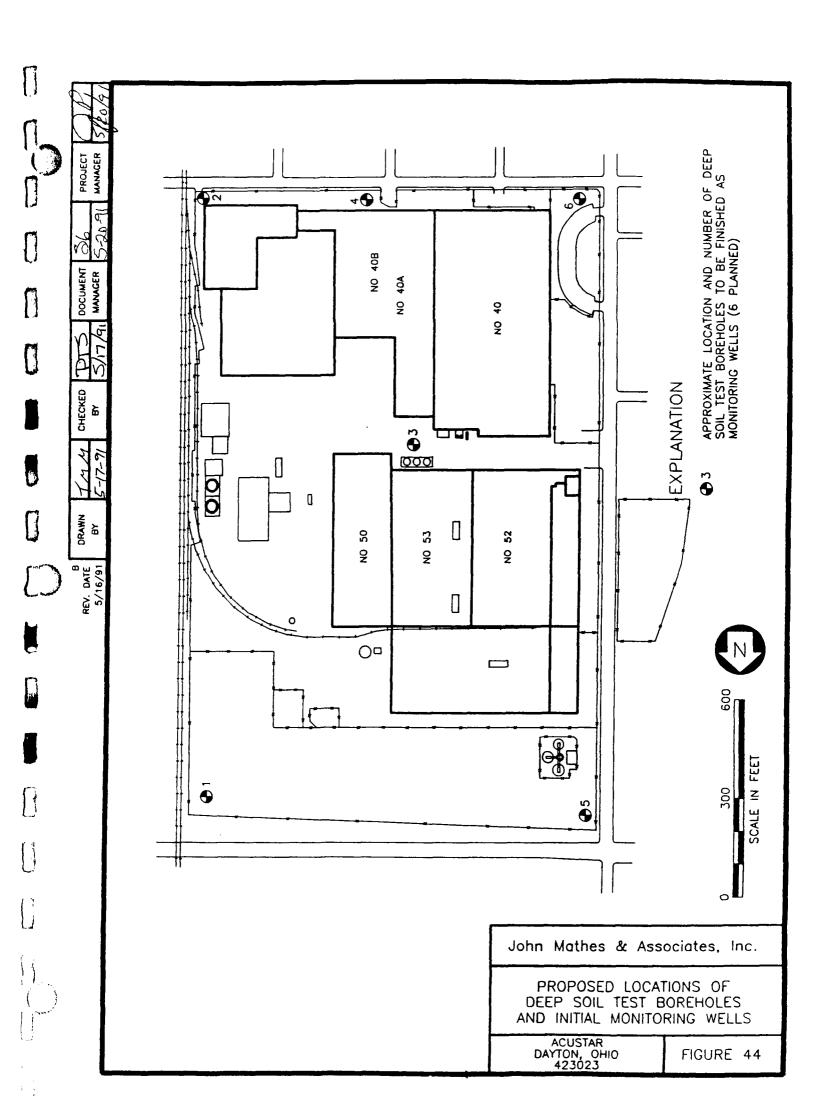












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APPENDIX B

Tables

05/91/349C28-1(423023)

Table 1

## RECON<sup>SM</sup> SAMPLE ANALYSIS SUMMARY DATA SUMMARY TABLE

Sample I.D.	Probe Hole Number	Depth (Feet)	1,1-DCE (ug/L)	trans-1,2-DCE (ug/L)	cis-1,2-DCE (ug/L)	1,1,1-TCA (ug/L)	TCE (ug/L)	PERC (ug/L)	Comments
Blank-01	l !		_	ND(1)	ND(1)	ND(1)	ND(2)	ND(2)	QC System Blank
Blank-02	;	[ ]	ND(1)	ND(1)	ND(1)	ND(1)	ND (2)	ND(2)	QC Rod Blank
DSG-01	PHOI		۰		ND(1)	ND(1)	ND (2)	ND(2)	Soil Gas
DSG-02	PH-01	7.5-8.5	10		41	168	130	33	Soil Gas
DSG-03	PH-01	_	41	35	20	1013	176	26	
DSG-04	PH-01	19-20	132	ND(1)	21	3210	388	38	
DSG-05	PH-01	24-25	80	ND(1)	24	255	99	40	
DGW-06	PH-01	28-30	1103	ND(1)	106	916	52	ND(2)	Groundwater Headspace
			•						(D)
00-054	PH-02	3-4	ND(1)		ND(1)	ND(1)	ND (2)	ND(2)	Soil Gas
DSG-08	PH-02	5-8.	9	ND(1)	ND(1)	8	15	$\overline{}$	Soil Gas
DSG-09	PH-02	13.5-14.5	284		ND(1)	134	204		Soil Gas
Blank-03	<u> </u>	1	ND(1)	ND(1)	ND (1)	ND(1)	ND(2)	ND(2)	
DSG-10	PH-02	19-20	2324		10	268	385	56	l Gas
DSG-10D	PH-02	19-20	2315	ND(1)	10	267	382	54	OC Duplicate (SG)
DSG-11	PH-02	24-25	17	ND(1)	ND(1)	ND(1)	11	ND(2)	Soil Gas
Blank-04	\ •	!!!	ND(1)		ND(1)	ND(2)	ND (2)	· —	QC System Blank
Blank-05	! !	!	ND (1)	ND(1)	ND(1)	ND(2)	ND (2)		OC Rod Blank
DGW-12	PH-02	29.5	115	13	1035	844	3226		Groundwater Headspace
DGW-12D	PH-02	29.5	122	16	1057	847	3343		OC Duplicate (GWHS)
	PH-03	7.5-8.5	62	ND(1)	ND(1)	58	54	_	Soil Gas
DSG-14	PH-03	19-20	ND(1)	ND(1)	ND(1)	ND(2)	ND(2)	ND(2)	Soil Gas
DGW-15	PH-03	4-25	2665	ND(1)	305	3128	9150	. —	Groundwater Headspace
DSG-16	PH-04	13.5-14.5	68	ND(1)	ND(1)	91	122	16	Soil Gas
71-550	PH-04	19-20	236	ND(1)	7	337	333	33	Soil Gas
DGW-18	PH-04	24-25	1405	ND(1)	189	4131	5652	_	
	1	]	ND(1)	ND(1)	ND(1)	ND(2)	ND(2)	ND (2)	QC Blank
DGW-19	PH-04	29.5-30.5	782	ND(1)	215	3173	5128	ND(2)	Groundwater Headspace
000		ı		•					(D)
026-20	2H-105	7.5-8.5	ND(1)	ND(1)		ND(2)	15	ND(2)	
DSG-ZI	20114	07-61		ND(T)	ND(1)	7	59	_	Soil Gas
בס לייין מ	FH-03	57-52	ND(1)	ND(1)	ND(1)	14		$\overline{}$	Groundwater Headspace
DIGIIK-0/	\ 	! !		ND(1)	ND(1)	ND(2)	ND(2)	ND(2)	QC System Blank
		1							

Table 1 (Continued)

### RECON<sup>SM</sup> SAMPLE ANALYSIS SUMMARY DATA SUMMARY TABLE

Sample I.D.	Probe Hole Number	Depth (Feet)	1,1-DCE (ug/L)	trans-1,2-DCE (ug/L)	cis-1,2-DCE (ug/L)	1,1,1-TCA (ug/L)	TCE (ug/L)	PERC (ug/L)	Comments
Blank-08A DSG-23 DSG-24 DGW-25 DSG-24 DSG-26 DSG-27 DSG-31 DSG-31 DSG-32 DSG-34 DSG-34 DSG-34 DSG-34 DSG-34 DSG-34 DSG-34 DSG-34 DSG-34 DSG-34 DSG-34 DSG-37 Blank-10 Blank-11 DSG-39 DSG-39 DSG-39 DSG-39 DSG-39 DSG-39 DSG-41	PH-06 PH-06 PH-06 PH-06 Bay I-4A Bay I-4A Bay I-3A Bay K-2 Bay K-2 Bay K-2 Bay I-3A Bay I-3A Bay I-3A Bay I-3A Bay I-3A Bay I-3A Bay I-3A Bay I-3A Bay I-3A Bay I-3A Bay K-2 Bay K-2 Bay K-3 Bay K-3 Bay K-3 Bay K-3 Bay K-3 Bay K-3 Bay K-3	7 19-20 10-20 11-21	ND(1) 50 814 225 144 635 1016 15 110 10 10 10 10 10 10 10 10 1		ND (1) 28 29 209 166 189 219 76 179 ND (1)	ND (2) 1191 1191 100 (2) ND (2	ND(2) 370 1687 816 714 ND(2) 445 84 627 364 ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2)	ND(2) ND(2) 12 (2) 13 (2) 14 (2) ND(2)	OC Rod Blank Soil Gas Soil Gas Groundwater Headspace Soil Gas Soil Gas Soil Gas Soil Gas Soil Gas Soil Gas Soil Gas OC Duplicate (SG) Soil Gas
DSG-45	PH-07	-20	13	ND (1)	193	42	4 (17)	319	

Table 1 (Continued)

### RECON<sup>SM</sup> SAMPLE ANALYSIS SUMMARY DATA SUMMARY TABLE

Sample	Probe Hole	Depth	1,1-DCE	trans-1,2-DCE	cis-1,2-DCE	1,1,1-TCA	TCE	PERC	Comments
I.D.	Number	(Feet)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	
DGW-46 DSG-47 DSG-48 DSG-49 Blank-12 Blank-13 Blank-14 DSG-51 DSG-52 DSG-51 DSG-52 DSG-53 DSG-55 DSG-55 DSG-60 DSG-60 DSG-60 DSG-61 DSG-61 DSG-61 DSG-62 DSG-63 DSG-63 DSG-64 DSG-64 DSG-65 DSG-64 DSG-65 DSG-64 DSG-65 DSG-67 DSG-67 DSG-67 DSG-68 DSG-69 DSG	### ### ### ### ### ### ### ### ### ##	24 30 41 6 14 17 17 18 19 10 11 10 10 10 10 10 10 10 10	ND(1) 6154 4683 7185 ND(1) ND(1) ND(1) 258636 153188 42530 23 11 5 ND(1) 3367 3210 3367 3210 3681 1251 1251 1251 1251 73 457 457 73 73 845 73 73 73 845 73 73 73 73		130 132 67 46 ND(1) ND(1) 139 159 45 ND(1) 15 8 8 32 30 15 5 ND(1) 153 36 19 ND(1) 153 ND(1) ND(1) ND(1) ND(1) ND(1) ND(1) ND(1) ND(1)	21 396 381 379 ND(2) ND(2) ND(2) 110 6 ND(2) ND(	86 714 631 409 ND(2) ND(2) 1516 3172 733 52 733 52 130 94 ND(2) 166 295 271 643 696 1202 696 1202 696 1202 696 1202 ND(2)	101 ND(2) 21 48 ND(2) ND(2) ND(2) 150 45 35 37 112 22 48 ND(2) 12 22 37 176 176 171 113 38 35 35 36 ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(3) ND(2) ND(3) ND(2) ND(3) ND(3) ND(4) ND(2) ND(2) ND(2) ND(3) ND(3) ND(3) ND(4) ND(3) ND(4) ND(5) ND(5) ND(6) ND(	Groundwater Headspace Soil Gas Soil Gas Soil Gas QC System Blank QC System Blank QC Ambient Blank QC Ambient Blank Soil Gas

Table 1 (Continued)

### RECON<sup>SM</sup> SAMPLE ANALYSIS SUMMARY DATA SUMMARY TABLE

Sample I.D.	Probe Hole Number	Depth (Feet)	1,1-DCE (ug/L)	trans-1,2-DCE (ug/L)	cis-1,2-DCE (ug/L)	1,1,1-TCA (ug/L)	TCE (ug/L)	PERC (ug/L)	Comments
			176 60 146 ND(1) 6 52 52 154 210 127 20 333 ND(1) 8 ND(1) 8 ND(1) 8 1431 578 3 3 3 4 1431 578 578 578 578		27 47 285 ND(1) ND(1) ND(1) 17 17 120 ND(1) ND(1	6	156 156 156 100 100 100 100 100 100 100 10	ND (2) 14 48 ND (2) ND (2) ND (2) 37 37 37 41 ND (2) ND (2	Soil Gas Soil Gas Soil Gas Soil Gas QC Rod Blank QC Rod Blank QC Rod Blank Soil Gas
DSG~95D	H-1	0-1	75	ND(1)	9	1782	49	190	2

Table 1 (Continued)

### RECON<sup>SM</sup> SAMPLE ANALYSIS SUMMARY DATA SUMMARY TABLE

Sample I.D.	Probe Hole Number	Depth (Feet)	1,1-DCE (ug/L)	trans-1,2-DCE (ug/L)	cis-1,2-DCE (ug/L)	1,1,1-TCA (ug/L)	TCE (ug/L)	PERC (ug/L)	Comments
DSG-96 DSG-97 Blank-21 Blank-22 DSG-99 DSG-99 DSG-100 DSG-101 DSG-103 AMB DSG-104 DSG-105 DSG-106 DSG-106 DSG-109 DSG-1109 DSG-111 DSG-111 DSG-112 DSG-113 DSG-113 DSG-113 DSG-111 DSG-111 DSG-111 DSG-111 DSG-111 DSG-111 DSG-111 DSG-111 DSG-111 DSG-111 DSG-111 DSG-111 DSG-111 DSG-111 DSG-111 DSG-111 DSG-111 DSG-111	Bay H-13 Bay H-13 Bay G-10 Bay G-10 Bay G-10 Bay K-1 Bay K-1 Bay K-1 Bay K-1 Bay G-12 Bay G-12 Bay G-12 Bay G-12 Bay G-12 Bay G-12 Bay G-12 Bay G-11 Bay G-11 Bay H-12B Bay H-12B Bay H-12B Bay H-12B Bay H-12B Bay H-1	4 - 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	11 34 ND(1) ND(1) 6 ND(1) 49 ND(1) 152 2108 22108 22108 22118 ND(1) 122 ND(1) ND(1) ND(1) ND(1) ND(1) ND(1) ND(1)		ND ND (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	83 698 ND(2) 11 10 10 10 10 10 10 10 10 10 10 10 10	ND (2) 38 ND (2) 38 ND (2) 24 ND (2) 26 323 ND (2) 31 31 31 31 31 30 31 31 30 31 30 31 30 31 30 31 30 31 30 31 30 31 30 31 30 31 30 31 30 31 30 31 30 31 30 30 30 30 30 30 30 30 30 30 30 30 30	11 59 ND(2)	Soil Gas Soil Gas Soil Gas QC System Blank QC Rod Blank Soil Gas
DSG-118	Bay I-1	6-7	ND(1)	ND(1)	8 2	ND(2)	166	13 ND(2)	Soil Gae

Table 1 (Continued)

### RECON<sup>SM</sup> SAMPLE ANALYSIS SUMMARY DATA SUMMARY TABLE

Sample I.D.	Probe Hole Number	Depth (Feet)	1,1-DCE (ug/L)	trans-1,2-DCE (ug/L)	cis-1,2-DCE (ug/L)	1,1,1-TCA (ug/L)	TCE (ug/L)	PERC (ug/L)	Comments
DSG-119 DSG-120 DSG-121 DSG-122 DSG-122 DSG-123 Blank-26 Blank-27 Blank-27 Blank-27 Blank-39 Blank-39 Blank-39 Blank-39 Blank-31 Blank-31 BSG-129 DSG-129 DSG-130 DSG-134	Bay H-11 Bay H-11 Bay H-11 NE-24 NE-24 SE-	0-1 3-4 6-7 9-10 19-20 19-20 24-25 10-11 19-20 24-25 24-25 24-25 19-20 10-11 19-20 10-11 19-20 10-11 19-20 10-11 19-20 10-11 19-20 19	16 11 12 12 10 10 10 10 10 10 10 10 10 10 10 10 10		5 ND (1)	767 413 295 ND (2) 14 ND (2) ND (2) ND (2) 9 7 7 7 ND (1) ND (1) ND (1) ND (1) ND (1) ND (1) ND (1) ND (1) ND (1) ND (1) ND (1) ND (2) ND (1) ND (2) ND (2) ND (1) ND (2) ND (2) ND (1) ND (1) ND (2) ND (1) ND (1) ND (1) ND (2) ND (2) ND (1) ND r>31 104 ND (2) ND (2) ND (2) ND (2) ND (2) ND (2) ND (1) ND r>19 19 19 10 116 ND(2)	Soil Gas Soil Gas Soil Gas Soil Gas Soil Gas Soil Gas Soil Gas QC System Blank QC System Blank QC Rod Blank Groundwater Headspace QC Duplicate (GWHS) QC System Blank QC System Blank QC System Blank QC System Blank QC Ambient Blank QC Ambient Blank QC System Blank QC System Blank QC System Blank QC System Blank QC System Blank Soil Gas Soil Gas Soil Gas Soil Gas Soil Gas Soil Gas Soil Gas Groundwater Headspace QC Duplicate (GWHS) QC System Blank QC System Blank QC System Blank QC System Blank QC System Blank QC System Blank QC System Blank		
Tallk	! !	1 ! !	TAR	7.57	49	64	51	27	Ambient Air

Table 1 (Continued)

### RECON<sup>SM</sup> SAMPLE ANALYSIS SUMMARY DATA SUMMARY TABLE

Sample I.D.	Probe Hole Number	Depth (Feet)	1,1-DCE (ug/L)	trans-1,2-DCE (ug/L)	cis-1,2-DCE (ug/L)	1,1,1-TCA (ug/L)	TCE (ug/L)	PERC (ug/L)	Comments
DSG-138 DGW-139 DSG-140 DSG-141 DSG-142 DSG-143	יטטטטטטטי	19-20 24-25 0-1 3-4 6-7 0-1	25054 823 185 3083 3214 7564	ND(1) ND(1) ND(1) ND(1) ND(1) ND(1)	357 127 21 209 234 165	1000 146 ND(2) 99 123 155 259	1036 115 40 460 614 1092 675	278 189 ND(2) ND(2) 10 36 164	Soil Gas Groundwater Headspace Soil Gas Soil Gas Soil Gas Soil Gas
DSG-145 DSG-145D Blank-37 Blank-38 Blank-39 DSG-146	ר כים	1 1	14520 14479 14 ND(1) ND(1) 7540	ND(1) ND(1) ND(1) ND(1)	212 213 ND(1) ND(1) ND(1)	348 351 ND(2) ND(2) ND(2)	781 788 ND(2) ND(2) ND(2)	174 178 ND(2) ND(2) ND(2)	וויכייכי די
DSG-147 DSG-148 DSG-149 DSG-150 DSG-151 DSG-151 DSG-153	Bay I-5 Bay I-5 Bay I-7 Bay I-7 Bay I-8 Bay I-8 Bay I-8	3 - 1 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4	12445 17329 262 2658 3811 237 907	ND(1) ND(1) ND(1) ND(1) ND(1) ND(1)	33 33 33 88 88 8	297 322 38 254 602 121 159	55777777777777777777777777777777777777	5959 4357 202 186 184 63	Soil Gas Soil Gas Soil Gas Soil Gas Soil Gas Soil Gas
Blank-40 VOC B-1 VOC B-2	Š Š		ND(1) ND(1) ND(1)	ND(2) ND(1) ND(1)	ND(1) ND(1) ND(1)	ND(2) ND(2) ND(2)	ND(2) 10 ND(2)	ND(2) ND(2) ND(2)	QC System Blank Air Vent Sample Air Vent Sample
DSG-155 DSG-156 DSG-157 DSG-158 DSG-159 DSG-160D	Bay J-6 Bay J-6 Bay J-8 Bay J-8 Bay J-8 Bay J-8	0-1 3-1 6-7 6-7	18464 19391 20790 174 349 551 542	ND (1) ND (1) ND (1) ND (1) ND (1)	480 1173 115 115 115 115 115 115 115 115 115 11	1527 1159 676 84 642 700	4071 2873 1439 153 172 195	952 776 556 38 33 31	Soil Gas Soil Gas Soil Gas Soil Gas Soil Gas Soil Gas

Table 1 (Continued)

### RECON<sup>SM</sup> SAMPLE ANALYSIS SUMMARY DATA SUMMARY TABLE

Sample I.D.	Probe Hole Number	Depth (Feet)	1,1-DCE (ug/L)	trans-1,2-DCE (ug/L)	cis-1,2-DCE (ug/L)	1,1,1-TCA (ug/L)	TCE (ug/L)	PERC (ug/L)	Comments
Blank-41 Blank-42 Blank-43			ND(1) ND(1) ND(1)		ND(1) ND(1) ND(1)	ND(2) ND(2) ND(2)	ND(2) ND(2) ND(2)	ND(2) ND(2) ND(2)	OC Blank QC System Blank QC Rod Blank
DSG-161 DSG-162 DGW-163 DGW-164	LW-1 LW-1 LW-1	10-11 20-21 24-25 30-31	ND(1) 6 ND(1) ND(1)	ND(1) ND(1) ND(1) ND(1)	ND(1) ND(1) ND(1) ND(1)	ND(2) ND(2) ND(2) 6	ND(2) 10 7 10	ND(2) ND(2) ND(2) ND(2)	Soil Gas Soil Gas Groundwater Headspace Groundwater Headspace
DSG-165 DSG-166 DGW-167 DSG-168 DSG-169	LW-2 LW-2 LW-3 LW-3	10-11 20-21 24-25 10-11 20-21	ND(1) 7 ND(1) ND(1) ND(1) ND(1)	ND(1) ND(1) ND(1) ND(1) ND(1)	ND(1) ND(1) 5 ND(1) 19	ND(2) ND(2) 13 ND(2) ND(2)	ND(2) ND(2) ND(2) ND(2)	ND(2) ND(2) ND(2) ND(2)	(D) Soil Gaø Soil Gaø Groundwater Headspace Soil Gaø
DGW-170 DGW-170D Blank-44A DSG-171 DSG-172 DGW-173	.,,,	24-25 24-25 10-11 20-21 24-25	ND(1) ND(1) ND(1) ND(1) ND(1) ND(1)	10 . 3 ND(1) ND(1) ND(1) ND(1)	251 269 ND(1) ND(1) ND(1) 27 ND(1)	ND (2) (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	155 159 ND(2) ND(2) ND(2) 12	ND (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	Groundwater Headspace QC Duplicate (GWHS) QC Blank Soil Gas Soil Gas Groundwater Headspace
DSG-175	Blower #4	!	ND(1)	ND(1)	ND(1)	ND(2)	10	ND(2)	Soil Gas
Blank-45 Blank-46 Blank-47 DSG-176 DSG-177 DGW-178 DORF	 MG-1 MG-1 MG-1 TCA Tank	10-11 20-21 24-25	ND(1) ND(1) ND(1) ND(1) ND(1) 15		ND(1) ND(1) ND(1) ND(1) ND(1) ND(1)	ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) 8184	ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) 11	ND(2) ND(2) ND(2) ND(2) 12 118	QC System Blank QC System Blank QC Rod Blank Soil Gas Soil Gas Groundwater Headspace Water from Catch

Table 1 (Continued)

## RECON<sup>SM</sup> SAMPLE ANALYSIS SUMMARY DATA SUMMARY TABLE

Sample I.D.	Probe Hole Number	Depth (Feet)	1,1-DCE (ug/L)	trans-1,2-DCE (ug/L)	cis-1,2-DCE (ug/L)	1,1,1-TCA (ug/L)	TCE (ug/L)	PERC (ug/L)	Comments
DSG-179 DSG-180 DGW-181 DSG-182 DSG-183 DGW-184 DGW-184 Blank-49 Blank-49 Blank-50 DSG-185 DGW-190 DGW-190 DGW-190 DGW-190 DGW-190 DGW-191 DGW-191 DGW-191 DGW-191	LD-1 LD-1 LD-1 LD-1 NEL-2 NEL-2 NEL-2 NEL-2 NG-2 MG-2 MG-2 MG-2 MG-2 MG-2 PH-07D PH-07D PH-07D PH-24 PL-24 PL-24	10-11 20-21 20-21 10-11 20-21 24-25 10-11 10-11 24-25 24-25 24-25 24-25 24-25 24-25 30-31	12 30 30 30 30 30 30 30 30 30 30 30 30 30		ND (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	1775 9020 261 932 33 34 37 37 37 37 37 86 9 12 ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2)	22 21 ND (2) 12 10 10 10 10 10 10 10 10 10 10 10 10 10	292 11150 688 114 43 59 57 ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2) ND(2)	Soil Gas Soil Gas Groundwater Headspace Soil Gas Soil Gas Groundwater Headspace QC Duplicate (GWHS) QC Blank QC System Blank QC Rod Blank Soil Gas Groundwater Headspace Soil Gas Groundwater Headspace C Duplicate (GWHS) QC System Blank QC System Blank QC System Blank QC System Blank Groundwater Headspace QC Duplicate (GWHS) QC System Blank QC System Blank Groundwater Headspace QC Duplicate (GWHS) Groundwater Headspace QC System Blank Groundwater Headspace QC System Blank Groundwater Headspace QC Duplicate (GWHS) Groundwater Headspace
DSG-194 DGW-195	WW-1 WW-1	20-21 24-25	ND(1) ND(1)	ND(1) ND(1)	ND(1) ND(1)	ND(2) ND(2) ND(2)	ND(2) ND(2)	ND(2) ND(2)	Soil Gas Groundwater Headspace

D - Groundwater sample collected at 30 to 31 feet below the surface. GWHS - Groundwater headspace analysis.

ND - Not Detected above 1 or 2 parts per billion background.

QC - Quality control. SG - Soil gas analysis. ug/L - microgram/Liter.

Table 2

# ANLYTICAL RESULTS - VOC ANALYSES GROUNDWATER SAMPLES COLLECTED USING RECON<sup>SM</sup>

ACUSTAR, INC.
DAYTON THERMAL PRODUCTS, INC.

ocation	Chloroform	1,1-DCA	1,2-DCA	1,1-DCE	t-1,2-DCE	Tetrachloroethene	1,1,1-TCA	1,1,2-TCA	TCE	Xylenes
W-1	ND <5	ND<5	ND<5	KD<5	ND<5	ND <5	ND<5	ND <5	ND<5	ND<5
ال-24	ND<5	ND<5	ND <5	ND<5	ND<5	ND<5	ND<5	ND<5	Ξ	ND<5
PL-24 (2)	ND <5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	<b>X</b> D< <b>5</b>	ND<5
₩-03	5.4	007	42.7	42.8	200	12.9	200	17.9	006	ND<5
4-04A	ND<5	700	8.9	19	900	ND<5	200	9.6	800	ND <5
PH-04B	ND<5	300	13	18.9	909	6.9	200	8.6	200	ND<5
90-1	7.3	65	ND<5	ND<5	200	21	400	14	700	ND<5
₽-Hd	ND<5	8.3	ND<5	ND<5	ND<5	390	160	ND<5	430	ND<5
J-12	ND<5	5.8	ND<5	ND<5	ND <5	200	ĸ	ND<5	700	ND<5
4-10W	5.9	89	ND<5	S>QN	ND<5	220	270	ND<5	130	ND<5
1-724	ND<25	180	ND<25	ND <25	ND<25	89	120	ND<25	122	ND<25
-24	ND<5	ND<5	ND<5	ND<5	ND<5	200	100	ND<5	55	ND<5
r-2	ND<5	ND<5	ND <5	ND<5	ND<5	190	63	ND<5	26	ND<5
SE-24	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	21	ī,	15	ND<5
1-1	ND<5	ND<5	ND<5	ND<5	ND<5	310	ND<5	ND<5	XD<5	ND<5
2-5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
LD-2	ND<5	2,500	280	360	ND<5	027	1,200	9.6	140	KD<5
1-124	ND <5	ND<5	ND<5	ND<5	ND<5	ND<5	28	ND<5	180	ND<5
1-130	ND <5	ND<5	ND<5	ND<5	ND <5	ND<5	31	ND<5	150	ND<5
LW-224	8.2	130	ND<5	ND<5	ND <5	7.8	45	ND<5	62	6.7
1-324	ND <5	ND <5	ND <5	ND<5	ND<5	ND <5	ND <5	ND<5	700	ND <5
1-330	ND <5	3>QN	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	2,000	ND <5
17-454	ND<5	33	ND <5	15	13	ND <5	130	12	008	ND<5

<sup>1,1-</sup>dichloroethane. 1,2-dichloroethane. 1,1-dichloroethene. 1,2-dichloroethene. trans-1,2-dichloroethene. 1,1,1-trichloroethane. 1,1-DCA 1,2-DCA 1,1-DCE 1,2-DCE t-1,2-DCE

<sup>05/91/360</sup>C61(423023)

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### APPENDIX C

Environmental Audit Data Base Review for Zip Code Areas 45404 and 45414 Dayton, Ohio

### THE FED REPORT

REPORT PROPERTY ADDRESS:

DAYTON 1600 WEBSTER STREET DAYTON, OH 45404 County: MONTGOMERY

																			Section
SUMMA	RY				•			•		•							•		I
FEDER	AL REPOR	RTS																	
N	PL									•			•	•	•	•	•		II.1
F	INDS							•			•	•				•	•	•	II.2
С	ERCLIS .				•			•		•	•	•		•			•	•	II.3
R	CRA FACI	LITIES								•	•	•		•			•		II.4
0	PEN DUMP	٠						•		•	•	•			•	•			II.5
E	MERGENCY	RESPO	NSE 1	ITON	FIC	ATIO	N S	YST	EM.	•	•								11.6
		25000																	
MISID	ENTIFIED	RECORI	JS SE	:AKCł	1 .	• •	• •	•	• •	•	•	•	• •	•	•	•	•	•	III
NOTE:	The er	ntries	in	thi	.s	App	end	ix	ar	e	nu	ımb	er	ed	a	s	tł	ıey	appear
	on Pla	ite 1.																	

### THE FED REPORT

I. SUMMARY

This Report is a compilation of federal environmental data which identifies environmental problem sites and activities from the records of the United States Environmental Protection Agency (US EPA). The data contained in this Report is the result of a search by EAI's Environmental Data Systems of the following US EPA records:

- 1. National Priorities List (NPL)
- 2. Facility Index System (FINDS)
- 3. Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)
- 4. Resource Conservation and Recovery Act (RCRA) Notification System
- 5. Solid Waste Facilities Not In Compliance with RCRA Subtitle D Criteria (OPEN DUMP SITES)
- 6. Emergency Response Notification System (ERNS)

A search of these databases identified: O NPL sites, 145 FINDS sites, 8 CERCLIS sites, 141 RCRA facilities, 1 OPEN DUMP Sites, and 8 ERNS sites.

The records of each of the foregoing sites and operators are contained in Section II of this report. The listed Sites are located within the zip code area or city stated at the beginning of each report sub-section. Section III contains 1 misidentified records of sites which appear to be located on or near the subject property.

### NPL DATABASE

II. REGULATORY INFORMATION
1. US EPA NPL DATABASE

DAYTON 1600 WEBSTER STREET DAYTON, OH 45404 County: MONTGOMERY

The National Priorities (Superfund) List (NPL) is EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund Program. A site, to be included on the NPL, must either meet or surpass a predetermined hazard ranking systems score, or be chosen as a state's top-priority site, or meet all three of the following criteria: (1) the US Department of Health and Human Services issues a health advisory recommending that people be removed from the site to avoid exposure; (2) EPA determines that the site represents a significant threat; and (3) EPA determines that remedial action is more cost-effective than removal action.

A search of the 1991 National Priorities List revealed the following Superfund sites located within the stated zip code areas: 45404, 45414

O Sites found for the area specified.

### FINDS DATABASE

II. REGULATORY INFORMATION
2. US EPA FINDS DATABASE

DAYTON

1600 WEBSTER STREET DAYTON, OH 45404 County: MONTGOMERY

The Facility Index System (FINDS) is a compilation of any property or site which the EPA has investigated, reviewed or been made aware of in connection with its various regulatory programs. Each record indicates the EPA Program Office that may have files on the site or facility.

A search of the 1991 FINDS Database revealed the following sites located within the stated zip code areas: 45404, 45414

### FINDS Sites

### 65. FACILITY ADDRESS

**EPA ID#** 

ENVIRONMENTAL PROCESSING SERVI

OHD000608588

416 LEO STREET DAYTON, OH 45404

Region: 05

Latitude: 394655 Longitude: 0841127

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID #: OHD000608588
Superfund - Hazardous Waste-Superfund
Program ID #: OHD000608588

66. SHELL OIL CO DAYTON PLT

OHD000609156

801 BRANDT PIKE DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA)

Program ID # : OHD000609156

Compliance Data System, Office of Air and Radiation

Program ID # : 36450000140

Office of Enforcement and Compliance Monitoring (DOCKET)

Program ID #: 05-79-0067

67. SUNOCO SERVICE STATION

OHD000671818

1448 TROY ST

DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

Environmental Audit, Inc.

### SUNOCO SERVICE STATION ( CONT'D )

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID #: OHD000671818

68. SUNOCO SERVICE STATION

OHD000682823

201 VALLEY ST

DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD000682823

**69.** SUNOCO SERVICE STATION

OHD000682963

7186 MILLER LANE DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA)

Program ID # : OHD000682963

70. OHIO BELL TEL CO SUPPLY WAREHO

OHD000720417

2024 VALLEY ST

DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD000720417

71. SCOTT EDWIN D BROKER

OHD000721027

1820 VALLEY STREET DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System. Office of Solid Waste(RCRA)

Program ID # : OHD000721027

72. BENDER AND LOUDON MOTOR FREIGH

OHD000772822

1795 STANLEY AVE BLDG 7 DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD000772822

73. GMC DELCO PRODUCTS DIV DAYTON

OHD000817585

1619 KUNTZ ROAD DAYTON, OH 45404

Region: 05

Latitude: 394726 Longitude: 0841023

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD000817585

Permit Compliance System, Office of Water Enforcement and Permits

Program ID # : S114 AD

Compliance Data System, Office of Air and Radiation

Program ID #: 36450000147

74. SUNMARK PETROLEUM MARKETING TE

OHD001722263

1708 FARR DR DAYTON, OH 45404

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Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD001722263

Office of Enforcement and Compliance Monitoring (DOCKET)

Program ID # : 05-00-0399

75. DAYTON ELECTRONIC PRODUCTS

OHD004241220

117 E HELENA ST

DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

76. DURIRON CO INC THE FOUNDRY & P

OHD004241550

425 N FINDLAY ST DAYTON. OH 45404

Region: 05

Latitude: 394604

4 Longitude: 0840903

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA)

Program ID # : OHD004241550

Compliance Data System, Office of Air and Radiation

Program ID # : 36450000112

77. AMCA INTERNATIONAL CORP

OHD004243648

1752 STANLEY AVE DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD004243648

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78. AMERICAN LUBRICANTS CO

OHD004244547

1227 DEEDS AVE

DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA)

Program ID # : OHD004244547

Pesticides and TSCA Enforcement System, Office of Pesticides and

Toxic Substances

Program ID # : 050710H01

Chemicals in Commerce Information System, Office of Toxic Substances

Program ID # : OH0002723

79. W & W MOLDED PLASTICS INC

OHD004245098

1441 MILBURN AVENUE DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA)

80. ELECTRO-POLISH CO INC

OHD004264198

332 VERMONT AVE DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD004264198

81. PAINT AMERICA CO

OHD004275772

1501 WEBSTER ST DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD004275772

82. KIMES ROBERT H INC

OHD004277240

2030 WEBSTER ST DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA)

Program ID # : OHD004277240

83. ESTEE MOLD & DIE INC

OHD004277679

1467 STANLEY AVE DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD004277679

84. GAYSTON CORPORATION

OHD004278156

55 JANNEY ROAD DAYTON, OH 45404

Region: 05

Latitude: 394730

Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

FINDS Sites FACILITY ADDRESS EPA ID# HOHMAN PLATING & MFG CO 85. OHD004278362 814 HILLROSE AVE DAYTON, OH 45404 Region: 05 Latitude: 394700 Longitude: 0841036 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste (RCRA) Program ID # : OHD004278362 Compliance Data System, Office of Air and Radiation Program ID #: 0857040217 OHD004278438 86. HOLLANDER INDUSTRIES CORP 219 KELLY AVE 45404 DAYTON, OH Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD004278438 87. NEFF FOLDING BOX CO OHD004278446 2001 KUNTZ RD DAYTON, OH 45404 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD004278446 88. DAYTON RUST PROOF COMPANY OHD004278628 1030 VALLEY ST 45404 DAYTON, OH 05 Region: Latitude: 394730 Longitude: 0841000 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD004278628 89. BRINKMAN TOOL & DIE INC OHD004279659

325 KISER ST

DAYTON, OH 45404

> Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

FINDS Sites FACILITY ADDRESS **EPA ID#** AGA GAS INC OHD004279774 90. 1223 MC COOK AVE DAYTON, OH 45404 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD004279774 GEM CITY CHEMICALS INC OHD004472940 1287 AIR CITY AVE DAYTON, OH 45404 Region: 05 Latitude: 394730 Longitude: 0841000 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD004472940 Pesticides and TSCA Enforcement System, Office of Pesticides and Toxic Substances Program ID # : 072960H01 ARAB TERMITE & PEST CONTROL IN OHD017944711 92. 801 LEO ST DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Pesticides and TSCA Enforcement System, Office of Pesticides and

Toxic Substances

Program ID # : 091700H01

PAULS GARAGE INC

OHD041060385

2941 VALLEY ST DAYTON, OH

45404 Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD041060385

LABINAL COMPONENTS GLOBE MOTOR

OHD041066325

1784 STANLEY AVE DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

# LABINAL COMPONENTS GLOBE MOTOR ( CONT'D )

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
 Program ID # : OHD041066325

95. DAYTON CASTING COMPANY

OHD056488786

300 KISSER STREET (KISER STREET)

DAYTON, OH 45404 Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Compliance Data System, Office of Air and Radiation

Program ID # : 36450000104

96. DUFF TRUCK LINE INC

OHD060913597

1744 STANLEY AVE DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD060913597

97. BRAINERD MFG CO INDUSTRIES DIV

OHD068953645

1723 WEBSTER

DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID #: OHD068953645

98. ROBERTS CONSOLIDATED INDUSTRIE

OHD071288039

220 JANNEY RD

DAYTON, OH 45404

Region: 05

Latitude: 394723 Longitude: 0841040

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

#### FINDS Sites

FACILITY ADDRESS **EPA ID#** LESTON CORPORATION 99. OHD072864390 2017 VALLEY STREET DAYTON, OH 45404 Region: 05 Latitude: 394730 Longitude: 0841000 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD072864390 ANGELL MANUFACTURING CO INC OHD072873664 1516-20 STANLEY AVE DAYTON, OH 45404 Region: 05 Latitude: 394730 Longitude: 0841000 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste (RCRA) Program ID # : OHD072873664 101. ARATEX SERVICES INC OHD072876279 1200 WEBSTER ST DAYTON, OH 45404 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD072876279 ORBIT MOVERS 102. OHD074690769 969 DEEDS AVE DAYTON, OH 45404 Region: 05 Latitude: 394730 Longitude: 0841000 COASTAL TANK LINES INC 103. OHD083371591 2160 JERGENS RD 45404 DAYTON, OH Region: 05 Latitude: 394730 Longitude: 0841000 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD083371591

104. ADVANCED ASSEMBLY AUTOMATION

ADVANCED ASSEMBLT AUTOMATION

OHD084755206

314 LEO ST

DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD084755206

105. DIAL MACHINE SERVICE CO INC

OHD093906055

131 KISER ST

DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD093906055

106. SOHIO DAYTON TERMINAL 620

OHD095194684

621 BRANDT PIKE

DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD095194684

Compliance Data System, Office of Air and Radiation

Program ID # : 36450000141

Office of Enforcement and Compliance Monitoring (DOCKET)

Program ID #: 05-79-0022

107. GEM CITY SPECIAL MACHINE BUILD

OHD095201513

1425 N KEOWEE ST DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD095201513

108. SPECIALTY SHEET METAL INC

OHD097918395

821 HALL AVE

DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

OHD097922520

**EPA ID#** 

OHD099020133

400 DETRICKS ST DAYTON, OH 45404 Region: 05

> Latitude: 384630 Longitude: 0841025

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD099020133

Compliance Data System, Office of Air and Radiation

Program ID #: 36450000019

Office of Enforcement and Compliance Monitoring (DOCKET)

Program ID #: 05-00-0246

DAYTON PARTS CO NAPA 111.

OHD103556080

221 LEO ST

DAYTON, OH 45404

> Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD103556080

112. PENSKE TRUCK LEASING CO OHD107623761

1922 LINDORPH DR DAYTON, OH 45404

05

Region:

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD107623761

113. PEPSI-COLA OF DAYTON OHD123387748

526 MILBURN AVE DAYTON, OH

45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA)

# FINDS Sites

FACILITY ADDRESS

EPA ID#

114. LANDMARK INC

OHD980280101

1800 TROY ST

DAYTON, OH 45404

Region: 05 Latitude: 394730

Longitude: 0841000

EPA Responsible Office(s):

Office of Enforcement and Compliance Monitoring (DOCKET)

Program ID # : 05-00-0303

115. DAYTON TERMINAL

OHD980486633

1700 FARR DR

DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Pesticides and TSCA Enforcement System, Office of Pesticides and

Toxic Substances

Program ID # : 008620H01

SENECA CHIEF INC

OHD980611826

403 HOWARD

FINLEY, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Superfund - Hazardous Waste-Superfund

Program ID # : OHD980611826

\* Facility does not appear to be within the area of interest.

117. NORTH SAN LDFL INC

OHD980611875

200 E VALLEYCREST DR DAYTON, OH 45404

Region: 05

Latitude: 394718 Longitude: 0840905

EPA Responsible Office(s):

Superfund - Hazardous Waste-Superfund

Program ID # : OHD980611875

118. AGA BURDOX INC ACETALINE PLT

OHD980793715

1727 FARR DR

DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Chemicals in Commerce Information System, Office of Toxic Substances

# AGA BURDOX INC ACETALINE PLT ( CONT'D )

Program ID # : 0H0047425

119. DAYTON CITY OF

OHD981796964

520 KISER ST

DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD981796964

120. TAIT INC

OHD981955776

**500 WEBSTER ST** DAYTON, OH 45404

05

Region:

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD981955776

ORBIT MOVERS

OHD982606220

1101 NEGGLEY PLACE AVE

DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD982606220

\* The street address provided appears to be outside the zip codes

of interest.

PENSKE TRUCK LEASING CO LP 122.

OHD982611592

1601 STANLEY AVE

DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD982611592

DAYTON PWR & LIGHT N DAYTON 123.

OHD982617003

1317 TROY ST

DAYTON, OH 45404

> Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

# DAYTON PWR & LIGHT N DAYTON ( CONT'D )

Program ID # : OHD982617003 Office of Toxic Substances (PADS) Program ID # : OHD982617003

DAYTON WIRE CO

OHD982619959

7 DAYTON WIRE PKWY DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD982619959

\* Not able to locate facility using available information.

125. SELLS MIKE

OHD986966489

33 LEO ST

DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Superfund - Hazardous Waste-Superfund

Program ID # : OHD986966489

126. DAYTON TRANE

OHD986967966

1441 STANLEY AVE DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA)

Program ID # : OHD986967966

127. PRECISION METAL FABRICATION

OHD986968865

191 HEID AVE

DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA)

Program ID # : OHD986968865

128. COLUMBIA GAS TRANS-AVONDALE

WANETA AVE S OF HALDEMAN AVE

DAYTON, OH 45404

Region: 05

Environmental Audit, Inc.

OHD986975712

# COLUMBIA GAS TRANS-AVONDALE ( CONT'D )

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID #: OHD986975712

129. GLOBE MOTORS DIV OF LCS INC

OHD986979136

1944 TROY ST

DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD986979136

130. GLOBE MOTORS DIV OF LCS INC

OHD986979144

2275 STANLEY AVE DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD986979144

131. UNO VEN COMPANY

OHT400010740

1796 FARR DR

DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHT400010740

Compliance Data System, Office of Air and Radiation

Program ID # : 36450000111

Office of Enforcement and Compliance Monitoring (DOCKET)

Program ID #: 05-79-0014

Permit Compliance System, Office of Water Enforcement and Permits

132. CCC HIGHWAY INC

OHT400011193

1464 KUNTZ ROAD

DAYTON, OH 45404

Region: 05

Latitude: 394730 Longitude: 0841000

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

#### FINDS Sites

# FACILITY ADDRESS

**EPA ID#** 

133. DAYTON MACHINE TOOL CO

OHD004277802

1314 WEBSTER ST

DAYTON, OH 45404 Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD004277802

134. DAYTON CLUTCH AND JOINT INC

OHD007862485

2005 TROY ST

DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA)

Program ID # : OHD007862485

135. WISE GARAGE INC

OHD007868748

**1845 TROY ST** 

DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA)

Program ID # : OHD007868748

136. SHEFFIELD MACHINE TOOL CO

OHD012183539

1506 MILBURN AVE

DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA)

Program ID # : OHD012183539

137. NILO CO

OHD054439781

115 VALLEYCREST DR DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

#### FINDS Sites

# FACILITY ADDRESS

**EPA ID#** 

138. DJINNII INDUSTRIES 302 VERMONT AVE OHD061709127

DAYTON, OH 45404 Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD061709127

139. CHILDRENS MEDICAL CTR

OHD071289326

1 CHILDRENS PLAZA DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD071289326

140. ENTEC CORP

OHD161890967

239 E HELENA ST DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD161890967

APS MATERIALS INC

OHD982066300

153 WALBROOK AVE DAYTON, OH 45404

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD982066300

\* Facility does not appear to be within the area of interest.

142. DIGITRON DAYTON

OHD982643793

500 WEBSTER ST DAYTON, OH 45404 Region: 05

Region. 03

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

FINDS Sites FACILITY ADDRESS EPA ID# AIR CITY MODELS AND TOOLS INC OHD986972123 143. 80 COMMERCE PARK DR DAYTON, OH 45404 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD986972123 144. WATKINS MOTOR LINES INC OHD986979979 1799 STANLEY AVE DAYTON, OH 45404 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste (RCRA) Program ID # : OHD986979979 9. SUNOCO SERVICE STATION OHD000671719 2001 NEEDMORE RD DAYTON, OH 45414 Region: 0.5 Latitude: 395048 Longitude: 0841242 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD000671719 OHD000809947 10. MEAD IMAGE CENTER 3908 IMAGE DRIVE DAYTON, OH 45414 Region: 05 Latitude: 395048 Longitude: 0841242 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste (RCRA) Program ID # : OHD000809947 11. RIECK MECHANICAL SERVICES INC OHD003861168

5245 WADSWORTH RD DAYTON, OH 45414 Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD003861168

# FINDS Sites **FACILITY ADDRESS** EPA ID# HARRIS GRAPHICS CORP BUS FORMS OHD004202917 1. 4900 WEBSTER ST DAYTON, OH 45414 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste (RCRA) Program ID # : OHD004202917 OHD004243457 124. B-N PLATING 613 DANIEL ST DAYTON, OH 45414 Region: 05 Latitude: 395048 Longitude: 0841242 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID #: OHD004243457 TECH DEVELOPMENT INC OHD004244851 6800 POE AVE DAYTON, OH 45414 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD004244851 Pesticides and TSCA Enforcement System, Office of Pesticides and Toxic Substances Program ID # : OHD004244851 Permit Compliance System, Office of Water Enforcement and Permits Compliance Data System, Office of Air and Radiation CHEMINEER INC OHD004262465 **5870 POE AVE** 45414 DAYTON, OH Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID #: 0HD004262465

S & G PLATERS INC 2640 KEENAN AVE

OHD004272035

45414 DAYTON, OH

Region: 05

Latitude: 395048 Longitude: 0841242

EPA Responsible Office(s):

## S & G PLATERS INC ( CONT'D )

Hazardous Waste Data Management System, Office of Solid Waste (RCRA) Program ID # : OHD004272035

SCHRIBER INDUSTIRES

OHD004273181

4620 WEBSTER ST DAYTON, OH 45414

Region: 05

Latitude: 395048 Longitude: 0841242

EPA Responsible Office(s):

Compliance Data System, Office of Air and Radiation

Program ID # : 36450080001

13. OMEGA TOOL & DIE CO

OHD004277398

6192 N WEBSTER ST 45414 DAYTON, OH

Region: 05 Latitude: 395048

Longitude: 0841242

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD004277398

14. AMERICAN CARCO CORP

OHD004277687

2800 ONTARIO AVE DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD004277687

YODER INDUSTRIES INC

OHD004277901

2520 NEEDMORE RD

DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA)

#### FACILITY ADDRESS

EPA ID#

# PROTECTIVE TREATMENTS INC ( CONT'D )

5. PROTECTIVE TREATMENTS INC 3345 STOP EIGHT ROAD

OHD004279204

DAYTON, OH 45414

Region: 05

Latitude: 395048 Longitude: 0841242

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD004279204

Compliance Data System, Office of Air and Radiation

Program ID #: 36450080096

6. INDUSTRIAL ELECTRIC MOTORS INC

OHD004474524

5131 WEBSTER ST DAYTON, OH 45414

ron, on 45414 Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD004474524

16. INDUSTRIAL WASTE DISPOSAL CO

OHD004774345

3975 WAGONER FORD RD DAYTON, OH 45414

Region: 05

Latitude: 394854 Longitude: 0841012

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD004774345

Superfund - Hazardous Waste-Superfund

Program ID #: OHD004774345

7. MUSICKS BODY SHOP INC

OHD041598046

3055 STOP EIGHT RD DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA)

Program ID # : OHD041598046

8. ERNST ENTERPRISES INC 3361 SUCCESSFUL WAY

DAYTON, OH 45414

Region: 05

OHD044497691

# ERNST ENTERPRISES INC ( CONT'D )

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD044497691

Compliance Data System, Office of Air and Radiation

Program ID # : 36426090003

Permit Compliance System, Office of Water Enforcement and Permits

17. ERNST ENTERPRISES INC 4970 WAGONER FORD RD

OHD044505915

DAYTON, OH 45414

> Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD044505915

18. GMC DELCO MORAINE DIV DAYTON N

OHD045557766

3100 NEEDMORE ROAD 45414 DAYTON, OH

Region:

Region: 05 Latitude: 394900

Longitude: 0841020

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD045557766

Permit Compliance System, Office of Water Enforcement and Permits

Program ID # : N196\*BD

Compliance Data System, Office of Air and Radiation

Program ID #: 36450000102 Office of Toxic Substances (PADS) Program ID # : OHD045557766

PERFECT-A-TEC CORP

OHD054433818

6222 WEBSTER ST

DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD054433818

20. INTEGRITY MFG CORP

3723 INPARK CIRCLE

DAYTON, OH 45414

Region:

Environmental Audit, Inc.

OHD056487374

## INTEGRITY MFG CORP ( CONT'D )

Latitude: 395048 Longitude: 0841242

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD056487374

21. MIAMI VALLEY INTERNATIONAL TRU

OHD056541055

7655 POE AVE

DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD056541055

22. CARGILL INC

OHD061698676

3201 NEEDMORE RD

DAYTON, OH 45414

Region: 05

Latitude: 395048 Longitude: 0841242

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD061698676

Compliance Data System, Office of Air and Radiation

Program ID # : 36450090131

Pesticides and TSCA Enforcement System, Office of Pesticides and

Toxic Substances

Program ID # : OHD061698676

Chemicals in Commerce Information System, Office of Toxic Substances

Program ID # : OH007537Y

Permit Compliance System, Office of Water Enforcement and Permits

Superfund - Hazardous Waste-Superfund

23. MCNULTY MOTOR INC

OHD063990089

**7030 POE AVE** 

DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

MOORE MK & SONS CO ( CONT'D )

24. MOORE MK & SONS CO 5150 WAGONER FORD RD OHD063999577

DAYTON, OH 45414 Region: 05

EPA Responsible Office(s):

Office of Enforcement and Compliance Monitoring (DOCKET)

Program ID # : 05-86-0391

25. SHERWIN-WILLIAMS CO WHSE

OHD071272512

3671 DAYTON PARK RD DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Superfund - Hazardous Waste-Superfund

Program ID # : OHD071272512

26. MILES LABORATORIES INC

OHD074694746

5600 BRENTLINGER DR DAYTON, OH 45414

Region: 05

Latitude: 395048 Longitude: 0841242

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD074694746

Compliance Data System, Office of Air and Radiation

Program ID # : 36450000208

27. MAACO AUTO PAINTING & BODYWORK

OHD074704404

3474 NEEDMORE

DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD074704404

28. MANFREDI MOTOR TRANSIT COMPANY

OHD077758936

5560 BRENTLINGER DR DAYTON, OH 45414

Region: 05

Latitude: 395048 Longitude: 0841242

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Environmental Audit, Inc.

# MANFREDI MOTOR TRANSIT COMPANY ( CONT'D )

Program ID # : OHD077758936

29. MONTGOMERY COUNTY INCIN NORTH OHD081594293

6589 N WEBSTER ST DAYTON, OH 45414

Region: 05

Longitude: 0841049 Latitude: 394710

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD081594293

Compliance Data System, Office of Air and Radiation

Program ID # : 36450000077

Superfund - Hazardous Waste-Superfund

Program ID # : OHD081594293

Office of Enforcement and Compliance Monitoring (DOCKET)

Program ID #: 05-78-0064

AMERICAN HONDA MOTOR CO INC PC 30.

OHD083365411

6400 SAND LAKE RD DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD083365411

NEEDMORE SERVICE CTR

OHD083366120

2206 NEEDMORE RD

DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD083366120

32. NORTHRIDGE LOCAL SCHOOL DIST OHD084750165

2011 TIMBERLANDS ST DAYTON, OH

45414

Region: 05

EPA Responsible Office(s):

Pesticides and TSCA Enforcement System, Office of Pesticides and

Toxic Substances

33. EASTERN TANK LINES INC 5536 BRENTLINGER DR OHD093901890

DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD093901890

34. LYTTON INC

OHD095203451

3970 IMAGE DR

DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD095203451

35. AMERICAN BODY SHOP

OHD121994834

2507 ASHCRAFT RD

DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD121994834

36. AGA GAS INC

OHD123277741

3800 DAYTON PARK DR DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD123277741

37. METOKOTE CORP PLT 6

OHD150672509

3435 STOP EIGHT RD DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

38. ALLOYD ASBESTOS ABATEMENT CO

OHD150672749

5734 WEBSTER ST

DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD150672749

Office of Enforcement and Compliance Monitoring (DOCKET)

Program ID # : 05-90-E005

Permit Compliance System, Office of Water Enforcement and Permits

39. SHELL SERVICE STATION

OHD980702336

2450 NEEDMORE

DAYTON, OH 45414

Region: 05

Latitude: 395048 Longitude: 0841242

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

Program ID # : OHD980702336

40. DARLENES ONE HOUR CLEANERS

OHD981198930

5901 N DIXIE DR

DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA)

Program ID # : OHD981198930

41. DEMOLITION LDFL

OHD981528839

WAGNER FORD RD AT WEBSTER RD

DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Pesticides and TSCA Enforcement System, Office of Pesticides and

Toxic Substances

Program ID #: 0HD981528839

42. AMERICAN HONDA MOTOR CO INC RE

OHD981794902

3920 SPACE DR

DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

#### FINDS Sites

#### FACILITY ADDRESS

**EPA ID#** 

VENTURE MFG 43.

OHD982625261

3949 DAYTON PARK DR DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA) Program ID # : OHD982625261

44. VENTURE MFG CO

OHD986967925

3616 DAYTON PARK DR 45414 DAYTON, OH

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste (RCRA) Program ID # : OHD986967925

45. COLUMBIA GAS TRANS-NORTH DIXIE N DIXIE RD 0.2 MI S STOP EIGHT OHD986975753

DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD986975753

DURIRON CO INC MODERN IND PLAS

OHD004241436

3337 N DIXIE DR DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD004241436

47. MILLAT INDUSTRIES CORP

OHD004242657

4534 WADSWORTH RD DAYTON, OH 45414

> Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD004242657

FINDS Sites FACILITY ADDRESS EPA ID# 48. OHD004243689 WALL COLMONOY 5251 WEBSTER ST DAYTON, OH 45414 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD004243689 OHD004473708 49. MAZER CORP 2501 NEFF RD DAYTON, OH 45414 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD004473708 CROSSROADS TOOL AND MFG CO OHD004482071 2787 ARMSTRONG LN DAYTON, OH 45414 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD004482071 51. OLD COLONY ENVELOPE CO OHD041229964 5621 N WEBSTER ST DAYTON, OH 45414 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD041229964 52. GARNER BROS INC OHD056602329

3361 NEEDMORE RD DAYTON, OH 45414 Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)

FINDS Sites FACILITY ADDRESS EPA ID# 53. ELDRIDGE BODY SHOP INC OHD079445094 4625 N DIXIE DR DAYTON, OH 45414 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD079445094 54. OMEGA AUTOMATION INC OHD108564949 2850 NEEDMORE RD DAYTON, OH 45414 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD108564949 55. ENCON INC OHD122526023 6161 VENTNOR AVE DAYTON, OH 45414 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD122526023 56. DAYTON DIESEL INJECTION OHD125494112 3341 N DIXIE DR 45414 DAYTON, OH Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD125494112

57. MICAFIL INC

OHD139252266

2608 AND 2609 NORDIC RD DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID #: OHD139252266

Environmental Audit, Inc.

FINDS Sites FACILITY ADDRESS EPA ID# BROWNING BODY AND FRAME OHD170253868 58. 9001 DIXIE DR DAYTON, OH 45414 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste (RCRA) Program ID # : OHD170253868 LORD CORP OHD981793698 59. 4644 WADSWORTH RD DAYTON, OH 45414 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD981793698 **BROADWAY COMPANIES** OHD981797673 60. 6344 WEBSTER ST DAYTON, OH 45414 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System. Office of Solid Waste(RCRA) Program ID # : OHD981797673 61. FINDLEY ADHESIVES INC OHD982206484 4710 WADSWORTH RD DAYTON, OH 45414 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste (RCRA) Program ID # : OHD982206484 62. ALAN LAF INC OHD986975035 4530 WADSWORTH AVE DAYTON, OH 45414 Region: 05 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : OHD986975035

#### FINDS Sites

# FACILITY ADDRESS

**EPA ID#** 

63. EXECUTIVE MOLD CORP 2781 THUNDERHAWK CT DAYTON, OH 45414 OHD986982841

Region: 05

EPA Responsible Office(s):

64. NORTHRIDGE BODY SHOP AND DETAI

OHD986984276

5910 MILO RD

DAYTON, OH 45414

Region: 05

EPA Responsible Office(s):

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID #: OHD986984276

145 Sites found for the area specified.

# CERCLIS DATABASE

II. REGULATORY INFORMATION 3. US EPA CERCLIS DATABASE DAYTON 1600 WEBSTER STREET DAYTON, OH 45404 County: MONTGOMERY

The CERCLIS List is a compilation by EPA of the sites which EPA has investigated or is currently investigating for a release or threatened of hazardous substances Pursuant to the Comprehensive release Environmental Response, Compensation and Liability Act of 1980 (Superfund Act).

A search of the 1991 CERCLIS Database revealed the following sites within the stated zip code areas: 45404, 45414

#### **CERCLIS Sites**

### FACILITY ADDRESS

EPA ID#

157. ENVIRONMENTAL PROCESSING SERVICES

OHD000608588

416 LEO ST

DAYTON, OH 45404 County: MONTGOMERY

Facility Type:

Ownership Indicator:

Classification:

Entry Source:

Status:

Proposed NPL Update #:

Latitude:

Longitude:

Event Discovery:

Preliminary Assessment:

Unknown

EPA Files

3947300 08410000

EPA, Fund Financed

Status Undetermined

No Determination

Actual Completion Date: 01/15/88

Has never been on the proposed final NPL

EPA, Fund Financed

Actual Completion Date: 01/09/89

NFA. At the conclusion of a preliminary assessment, no further action

is anticipated for this site or no hazard was identified.

MIKE SELLS 159.

OHD986966489

33 LED STREET (333 LEO STREET)

DAYTON, OH 45404

County: MONTGOMERY

Facility Type: Classification:

Status Undetermined No Determination

Status:

Has never been on the proposed final NPL

Latitude: 3947300 Longitude: 08410000

Event Discovery: State, Fund Financed MIKE SELLS ( CONT'D )

Actual Completion Date: 04/20/88

Preliminary Assessment: State, Fund Financed

Actual Completion Date: 12/14/90

117. NORTH SAN LDFL INC

OHD980611875

OHD980611826

200 E VALLEYCREST DR DAYTON, OH 45404 County: MONTGOMERY

Facility Type:

Not A Federal Facility cator: Other

Ownership Indicator: Classification:

No Determination

Entry Source:

Notis

Status: Latitude: Has never been on the proposed final NPL

3947300 08410000

Longitude: Event Discovery:

EPA, Fund Financed

Actual Completion Date: 06/01/81

Listing Site Inspection:

State, Fund Financed EPA, Fund Financed

Preliminary Assessment:

Actual Completion Date: 06/28/85

Screening Site Inspection: State, Fund Financed

SENECA CHIEF INC

403 HOWARD

FINLEY, OH 45404 County: MONTGOMERY

Facility Type:

Not A Federal Facility

Ownership Indicator:

Other

Classification:

No Determination

Entry Source:

Notis

Status:

Has never been on the proposed final NPL

Proposed NPL Update #: Latitude:

00 3947300

Longitude:

08410000

Event Discovery:

EPA, Fund Financed

Actual Completion Date: 06/01/81

Preliminary Assessment:

State, Fund Financed

Preliminary Assessment: Sta

Actual Completion Date: 09/25/85

State, Fund Financed

Actual Completion Date: 02/07/90

NFA. At the conclusion of a preliminary assessment, no further action is anticipated for this site or no hazard was identified.

\* Facility does not appear to be within the area of interest.

16. IWD LIQUID WASTE

OHD004774345

3975 WAGONER FORD RD DAYTON, OH 45414 County: MONTGOMERY

Facility Type:
Ownership Indicator:

Not A Federal Facility
Other

Classification:

No Determination

Entry Source:

Notis

Status: Incident Type: Has never been on the proposed final NPL

Proposed NPL Update #:

Non-Oil Spill

Latitude: Longitude: 3950480 08412420

Event Discovery:

EPA, Fund Financed

Actual Completion Date: 04/01/79

Preliminary Assessment:

State, Fund Financed Actual Completion Date: 12/01/83

NFA. At the conclusion of a preliminary assessment, no further action

is anticipated for this site or no hazard was identified.

KILGA ENTERPRISES 5874 GERMANTOWN PIKE OHD980899942

DAYTON, OH 45414 County: MONTGOMERY

ounty: MONTGOMERY Facility Type: Classification:

Status Undetermined No Determination

Entry Source: Status: EPA Files
Has never been on the proposed final NPL

Latitude: 3950480 Longitude: 08412420

Event Discovery:

Federal Enforcement

Actual Completion Date: 12/04/87

Preliminary Assessment:

State, Fund Financed

Actual Completion Date: 11/07/90

\* The street address provided appears to be outside the zip codes of interest.

158. MONTGOMERY CO N INCINERATOR

OHD081594293

6589 N WEBSTER ST DAYTON, OH 45414 County: MONTGOMERY

County: MONTGOMERY Facility Type:

Not A Federal Facility Other

Ownership Indicator: Classification:

No Determination

Entry Source:

HWDMS

Status: Latitude: Has never been on the proposed final NPL

Longitude:

3950480 08412420

Event Discovery:

EPA, Fund Financed

#### **CERCLIS Sites**

#### FACILITY ADDRESS

**EPA ID#** 

OHD071272512

MONTGOMERY CO N INCINERATOR ( CONT'D )

Actual Completion Date: 08/01/80

Preliminary Assessment: State, Fund Financed

State, Fund Financed Actual Completion Date: 12/11/86

Screening Site Inspection: EPA, Fund Financed

Actual Completion Date: 06/30/87

25. SHERWIN WILLIAMS WAREHOUSE

3671 DAYTON PARK DRIVE DAYTON, OH 45414

County: MONTGOMERY Facility Type:

Classification: Status:

Latitude: Longitude:

Event Discovery:

Status Undetermined No Determination

Has never been on the proposed final NPL

3950480 08412420

State, Fund Financed

Actual Completion Date: 04/20/88

8 Sites found for the area specified.

# RCRA DATABASE

II. REGULATORY INFORMATION 4. US EPA RCRA DATABASE

DAYTON

1600 WEBSTER STREET DAYTON, OH 45404 County: MONTGOMERY

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by EPA of reporting facilities that generate, store, transport, treat or dispose of hazardous waste.

A search of the 1991 RCRA Database revealed the following facilities located within the stated zip code area(s): 45404, 45414

#### RCRA Sites

## FACILITY ADDRESS

**EPA ID#** 

ADVANCED ASSEMBLY AUTOMATION 104. 314 LEO ST

OHD084755206

DAYTON. OH

45404

County:

**MONTGOMERY** 

Closed non-TSD facility

AGA GAS INC 90. 1223 MCCOOK AVE DAYTON, OH 45404 County: **MONTGOMERY**  OHD004279774

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

AIR CITY MODELS AND TOOLS INC

OHD986972123

80 COMMERCE PARK DR DAYTON, OH 45404

County:

**MONTGOMERY** 

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

RCRA Sites

FACILITY ADDRESS

EPA ID#

77. AMCA INTERNATIONAL CORP
1752 STANLEY AVE
DAYTON, OH 45404
County: MONTGOMERY

OHD004243648

78. AMERICAN LUBRICANTS CO
1227 DEEDS AVE
DAYTON, OH 45404
County: MONTGOMERY

OHD004244547

100. ANGELL MANUFACTURING CO INC 1516-20 STANLEY AVE DAYTON, OH 45404 OHD072873664

County:

MONTGOMERY

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

APS MATERIALS INC
153 WALBROOK AVE
DAYTON, OH 45404
County: MONTGOMERY

OHD982066300

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

\* The street address provided appears to be outside the zip codes of interest.

101. ARATEX SERVICES
1200 WEBSTER ST
DAYTON, OH 45404
County: MONTGOMERY

OHD072876279

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

#### FACILITY ADDRESS

**EPA ID#** 

72. BENDER AND LOUDON MOTOR FREIGHT INC 1795 STANLEY AVE BLDG 7 DAYTON, OH 45404 County: MONTGOMERY OHD000772822

This facility is engaged in the off-site transportation of hazardous waste by air, rail, road (highway), and/or water.

RCRA Permit Status: Protective/Precautionary Filer

A protective filer and precautionary filer who has been notified by EPA or the authorized state that its withdrawal has been approved.

77. BRAINERD MFG CO INDUSTRIES DIV 1723 WEBSTER DAYTON, OH 45404 OHD068953645

County:

MONTGOMERY

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

89. BRINKMAN TOOL AND DIE INC 325 KISER ST DAYTON, OH 45404 OHD004279659

County:

MONTGOMERY

This facility generates less than 100 kg/mo of non-acutely hazardous waste.

132. CCC HIGHWAY INC 1464 KUNTZ ROAD DAYTON, OH 45404 County: MONTGOMERY

OHT400011193

ouncy: Montgoment

This facility is engaged in the off-site transportation of hazardous waste by air, rail, road (highway), and/or water.

42

FACILITY ADDRESS

EPA ID#

139. CHILDRENS MEDICAL CTR 1 CHILDRENS PLAZA DAYTON, OH 45404

OHD071289326

County:

**MONTGOMERY** 

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

103. COASTAL TANK LINES INC 2160 JERGENS RD

OHD083371591

45404 DAYTON, OH

County:

**MONTGOMERY** 

This facility is engaged in the off-site transportation of hazardous waste by air, rail, road (highway), and/or water.

128. COLUMBIA GAS TRANS AVONDALE WANETA AVE S OF HALDEMAN AVE 45404 DAYTON, OH County:

OHD986975712

**MONTGOMERY** 

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

150. CORDAGE PACKAGING

OHD004479291

66 JANNEY RD

45404 DAYTON, OH

County:

**MONTGOMERY** 

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

119. DAYTON CITY OF 520 KISER ST

OHD981796964

DAYTON, OH 45404

County:

MONTGOMERY

#### DAYTON CITY OF ( CONT'D )

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

134. DAYTON CLUTCH AND JOINT INC

OHD007862485

2005 TROY ST

DAYTON, OH 45404

County:

MONTGOMERY

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

75. DAYTON ELECTRONIC PRODUCTS

OHD004241220

117 E HELENA ST DAYTON, OH 45404

County:

MONTGOMERY

Non-handler (I.E. other than RCRA regulated waste handler)

133. DAYTON MACHINE TOOL CO 1314 WEBSTER ST OHD004277802

DAYTON, OH 45404

County:

MONTGOMERY

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

111. DAYTON PARTS CO NAPA

OHD103556080

221 LEO ST

DAYTON, OH 45404

County:

MONTGOMERY

This facility generates less than 100 kg/mo of non-acutely hazardous waste.

RCRA Sites

#### FACILITY ADDRESS

EPA ID#

123. DAYTON PWR AND LIGHT N DAYTON SVC CTR 1317 TROY ST

OHD982617003

DAYTON, OH 45404

County:

MONTGOMERY

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

DAYTON RUST PROOF COMPANY 88.

OHD004278628

1030 VALLEY ST DAYTON, OH 45404

County:

**MONTGOMERY** 

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

126. DAYTON TRANE

OHD986967966

1441 STANLEY AVE DAYTON, OH 45404

County:

**MONTGOMERY** 

This facility generates less than 100 kg/mo of non-acutely hazardous waste.

151. DAYTON WATER SYSTEMS 1288 MCCOOK AVE

OHD061614673

DAYTON, OH 45404

County:

**MONTGOMERY** 

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

124. DAYTON WIRE CO 7 DAYTON WIRE PKWY DAYTON, OH 45404 OHD982619959

County:

**MONTGOMERY** 

#### DAYTON WIRE CO ( CONT'D )

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

DIAL MACHINE SERVICE CO INC

OHD093906055

131 KISER ST

DAYTON, OH 45404

County:

MONTGOMERY

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

142. DIGITRON DAYTON OHD982643793

500 WEBSTER ST DAYTON, OH 45404

County:

**MONTGOMERY** 

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

138. **DJINNII INDUSTRIES 302 VERMONT AVE** 45404

OHD061709127

DAYTON, OH County:

MONTGOMERY

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

76. DURIRON CO INC THE FOUNDRY & PUMP DIV OHD004241550

425 N FINDLAY ST DAYTON, OH 45404

County:

**MONTGOMERY** 

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

EPA ID#

DURIRON CO INC THE FOUNDRY & PUMP DIV ( CONT'D )

Existing Facility (In operation on or before 11/19/80)

This facility is engaged in the treatment, storage, and/or the disposal of hazardous waste.

TSD Facility Type: Land Disposal

A facility with land disposal units that are in operation, in post-closure care, closing prior to the certification, or new prior to permitting.

RCRA Permit Status: Permit Withdrawal Candidate

A facility which will not seek an operating permit for any units, This facility was previously covered by RCRA (or was thought to be covered by RCRA) and is now awaiting a decision on a status change request which may have been initiated by either the facility or the regulating authority.

ELECTRO-POLISH CO INC 80. 332 VERMONT AVE DAYTON, OH 45404

OHD004264198

OHD161890967

MONTGOMERY County:

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

ENTEC CORP 140. 239 E HELENA ST DAYTON, OH 45404

MONTGOMERY County:

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

ENVIRONMENTAL PROCESSING SERVICES 65. 416 LEO STREET DAYTON, OH 45404 County:

**MONTGOMERY** 

OHD000608588

#### ENVIRONMENTAL PROCESSING SERVICES ( CONT'D )

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

Existing Facility (In operation on or before 11/19/80)

This facility is engaged in the off-site transportation of hazardous waste by air, rail, road (highway), and/or water.

This facility is engaged in the treatment, storage, and/or the disposal of hazardous waste.

TSD Facility Type: Storage/Treatment

A facility with storage and treatment units that are new operating or closing but not yet certified. The facility does not currently have incinerator units and does not have and did not have in the past any land disposal units.

RCRA Permit Status: Operating Facility/ Permit Candidate

An operating (not closed) treatment, storage, or disposal facility not belonging in other categories. Authority to operate may be statutory interim status or may have been granted through an interim status compliance letter or compliance order, (ISCL or ISCO) or other enforcement action. Facility may also have some units that are closed or permitted.

83. ESTEE MOLD AND DIE INC 1467 STANLEY AVE DAYTON, OH 45404 County: MONTGOMERY

OHD004277679

This facility generates less than 100 kg/mo of non-acutely hazardous waste.

84. GAYSTON CORPORATION
55 JANNEY ROAD
DAYTON, OH 45404
County: MONTGOMERY

OHD004278156

Closed non-TSD facility

#### **FACILITY ADDRESS**

EPA ID#

OHD004472940

91. GEM CITY CHEMICALS INC 1287 AIR CITY AVE DAYTON, OH 45404

County:

**MONTGOMERY** 

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

This facility is engaged in the off-site transportation of hazardous waste by air, rail, road (highway), and/or water.

107. GEM CITY SPECIAL MACHINE BLDER

OHD095201513

1425 N KEOWEE ST DAYTON, OH 45404

County:

**MONTGOMERY** 

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

109. GEM CITY STAMPINGS INC

OHD097922520

1546 STANLEY AVE DAYTON, OH 45404

County:

**MONTGOMERY** 

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

130. GLOBE MOTORS DIV OF LCS INC

OHD986979144

2275 STANLEY AVE DAYTON, OH 45404

County:

**MONTGOMERY** 

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

129. GLOBE MOTORS DIV OF LCS INC 1944 TROY ST

OHD986979136

45404 DAYTON, OH

County:

MONTGOMERY

## GLOBE MOTORS DIV OF LCS INC ( CONT'D )

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

73. GMC DELCO PRODUCTS DIV DAYTON PLANT

OHD000817585

1619 KUNTZ ROAD DAYTON, OH 45404

County:

**MONTGOMERY** 

SIC Code:

3621 3714

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

Closed Facility (Previously had interim status or an EPA Permit, but no longer has either.)

This facility is engaged in the off-site transportation of hazardous waste by air, rail, road (highway), and/or water.

RCRA Permit Status: Closure Certified

A facility which has completed closure through 40 CFR 264 or 40 CFR 265 for all units, and such closure has been certified by the owner and by a professional engineer.

This category also includes storage facilities where EPA or the authorized state has confirmed the reversion to storage for less than ninety days per 40 CFR 262. The regulating agency has not taken deliberate action to terminate the facility's interim status as a result of LOIS non-certification.

85. HOHMAN PLATING & MFG CO 814 HILLROSE AVE DAYTON, OH 45404 OHD004278362

County:

MONTGOMERY

3471

SIC Code:

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

Existing Facility (In operation on or before 11/19/80)

#### HOHMAN PLATING & MFG CO ( CONT'D )

This facility is engaged in the off-site transportation of hazardous waste by air, rail, road (highway), and/or water.

RCRA Permit Status: Protective/Precautionary Filer

A protective filer and precautionary filer who has been notified by EPA or the authorized state that its withdrawal has been approved.

86. HOLLANDER INDUSTRIES CORP 219 KELLY AVE OHD004278438

DAYTON, OH 45404

County:

MONTGOMERY

Non-handler (I.E. other than RCRA regulated waste handler)

110. JOHN PAUL ENTERPRISES INC

OHD099020133

400 DETRICKS ST DAYTON, OH 45404

County:

MONTGOMERY

SIC Code:

3321

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

Closed Facility (Previously had interim status or an EPA Permit, but no longer has either.)

RCRA Permit Status: Closure Certified

A facility which has completed closure through 40 CFR 264 or 40 CFR 265 for all units, and such closure has been certified by the owner and by a professional engineer.

This category also includes storage facilities where EPA or the authorized state has confirmed the reversion to storage for less than ninety days per 40 CFR 262. The regulating agency has not taken deliberate action to terminate the facility's interim status as a result of LOIS non-certification.

**RCRA Sites** 

#### FACILITY ADDRESS

**EPA ID#** 

82. KIMES ROBERT H INC 2030 WEBSTER ST DAYTON, OH 45404 OHD004277240

County:

MONTGOMERY

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

94. LABINAL COMPONENTS GLOBE MOTORS DIV 1784 STANLEY AVE OHD041066325

DAYTON, OH 45404

County:

MONTGOMERY

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

99. LESTON CORPORATION
2017 VALLEY STREET
DAYTON, OH 45404

OHD072864390

County: MONTGOMERY

This facility is engaged in the off-site transportation of hazardous waste by air, rail, road (highway), and/or water.

87. NEFF FOLDING BOX CO
2001 KUNTZ RD
DAYTON, OH 45404
County: MONTGOMERY

OHD004278446

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

137. NILO CO 115 VALLEYCREST DR DAYTON, OH 45404 OHD054439781

County:

MONTGOMERY

#### RCRA Sites

#### FACILITY ADDRESS

EPA ID#

NILO CO ( CONT'D )

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

70. OHIO BELL-SUPPLY WAREHOUSE

OHD000720417

2024 VALLEY STREET DAYTON, OH 45404

County:

**MONTGOMERY** 

Non-handler (I.E. other than RCRA regulated waste handler)

152. OHIO DEPT OF TRANSP 4397 PAYNE AVE

OHD982205445

OHD982606220

DAYTON, OH 45404

County:

MONTGOMERY

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

ORBIT MOVERS 1101 NEGGLEY PLACE AVE DAYTON, OH - 45404

County:

MONTGOMERY

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

\* The street address provided appears to be outside the zip codes of interest.

81. PAINT AMERICA CO

OHD004275772

1501 WEBSTER ST DAYTON, OH 45404

County:

**MONTGOMERY** 

Non-handler (I.E. other than RCRA regulated waste handler)

# THE STATE REPORT

**REPORT PROPERTY ADDRESS:** 

DAYTON 1600 WEBSTER STREET DAYTON, OHIO 45404 County: MONTGOMERY

# TABLE OF CONTENTS

- I. STATE DATABASE INFORMATION
  - 1. State Priority List

I. STATE DATABASE INFORMATION
DAYTON
1600 WEBSTER STREET
DAYTON, OHIO 45404
County: MONTGOMERY
1. State Priority List

The Ohio Environmental Protection Agency, Corrective Actions Section compiles a master list of identified sites or sources of environmental problems. A review of the Unregulated Sites Master List revealed the following facilities located within the 45404 and 45414 zip code areas, Montgomery County, Ohio.

# EPA ID # OHIO EPA ID #

65. 0HD000608588 557-1081

159. OHD986966489 557-1002

9. OHD081594293 557-0540

117. OHD980611875 557-0583

25. OHD071272512 557-1000

#### FACILITY NAME/LOCATION

Environmental Processing Services 416 Leo St. Dayton, OH 45404 Montgomery County

Mike Sells 333 Leo Street Dayton, OH 45404 Montgomery County

Montgomery Co Incinerator - North Plt. 6589 Webster St Dayton, OH 45414 Montgomery County

North San Ldfl Inc 200 E Valleycrest Dr Dayton, OH 45404 Montgomery County

Sherwin Williams Warehouse 3671 Dayton Park Dr Dayton, OH 45414 Montgomery County

I. STATE DATABASE INFORMATION
DAYTON
1600 WEBSTER STREET
DAYTON, OHIO 45404
County: MONTGOMERY
I. State Priority List

#### EPA ID # OHIO EPA ID #

16. OHD004774345 557-0423

> \* 0HD98089942 557-0977

## FACILITY NAME/LOCATION

IWD Liquid Waste, Inc. 3975 Wagoner Ford Rd. Dayton, OH 45414 Montgomery County

Kilga Enterprises 5874 Germantown Pike Dayton, OH 45414 Montgomery County

- \* Facility does not appear to be within the area of interest.
  - 7 Sites found for the area specified.
  - $\ensuremath{\text{0}}$  Possibly Misidentified Sites found for the area specified.



R.F.Q. <u>3CHRY4</u>
DATE: October 14, 1999

# REQUEST FOR BID - JOB SPECIFICATION SEWER AND SEPARATOR CLEANING AND ABANDONMENT

JOB NAME:	Sump/Sewer Line/Separator Cleanout, Abandonment, and Disposal of Associated
	Solids and/or Liquids
IOR LOCATION:	DaimlerChrysler Dayton Thermal Products Plant/Buildings

DRAWING OR
SKETCH NUMBER:

DaimlerChrysler/Dayton Plant Layout

ATTACHMENTS: BID FORM

#### INCLUDED DAIMLERCHRYSLER CORPORATION - GENERAL CONDITIONS (AS APPLICABLE)

#### 1.0 INVITATION TO BID

Your firm is hereby requested to submit a proposal for performing the complete work as described in the Contract Documents consisting of these specifications, the bid form, and included drawing.

Information regarding existing conditions at the job site are believed to be reasonably correct, but the Owner cannot guarantee its completeness or accuracy. The Contractor will be held to have examined the Contract Documents, the premises and the job site and to have satisfied himself as to the scope of work and field conditions before the delivery of his proposal.

#### **2.0 INSTRUCTIONS TO BIDDERS**

**BIDDERS' MEETING:** 10:00 a.m., October 21, 1999

DaimlerChrysler/Dayton Thermal Products Division

Plant Engineering Office 1600 Webster Street Dayton, Ohio 45404

**BIDS DUE:** 4:00 p.m., CDST, November 1, 1999

**CONTRACT AWARD:** November 5, 1999

FIELD INSTALLATION: November 15, 1999

JOB COMPLETION: January 1999

## Inquires regarding these bid specifications and request for plant visits are to be directed to:

Mr. Kenneth D. Vogel, Senior Associate Leggette, Brashears & Graham, Inc. 1210 West County Road E, Suite 700 St. Paul. MN 55112

TELEPHONE: (651) 490-1405, ext. 202

FAX:

(651) 490-1006

E-MAIL:

kvogel@lbgmn.com

#### Send four (4) copies of written work plan and completed bid form to the attention of Mr. Keith Coney:

Mr. Keith A. Coney, CIMS 484-00-04 DaimlerChrysler Corporation Chrysler Technology Center 800 Chrysler Drive Auburn Hills, Michigan 48326-2757

TELEPHONE: (248) 512-1654

FAX:

(248) 512-1521

#### In addition, send one (1) copy of written work plan and completed bid form to the attention of each of the following individuals:

Mr. Kenneth D. Vogel, Senior Associate Leggette, Brashears & Graham, Inc. 1210 West County Road E, Suite 700 St. Paul, MN 55112

TELEPHONE: (651) 490-1405, ext. 202

FAX:

(651) 490-1006

E-MAIL:

kvogel@lbgmn.com

\*\*\*\*\*\*\*\*\*\*\*\*\*

Mr. Gary M. Stanczuk, CIMS 482-00-51 DaimlerChrysler Corporation Chrysler Technology Center 800 Chrysler Drive Auburn Hills, Michigan 48326-2757

TELEPHONE: (248) 576-7365

FAX:

(248) 576-7369

The following local contractors are familiar with the plant facilities and operations. These firms are noted for informational purposes only. Inclusion or exclusion of these firms in your bid will not have a bearing on award of the work.

Fryman-Kuck Shook, Inc.	•	ork, etc.) (937) 274-2892 ork, etc.) (937) 276-6666
S&D Mechanical	(plumbing)	(937) 277-8080
Pipe Systems, Inc.	(plumbing)	(937) 236-2262
Freedom Electric	(electrical)	(937) 228-0660
Studebaker Electric	(electrical)	(937) 890-9510
Browning-Ferris Industrie Waste Management, Inc.		

#### 3.0 SCOPE OF WORK

THE SUCCESSFUL BIDDER WILL FURNISH ALL SERVICES, TRADE-SPECIFIC UNION LABOR SIGNATORY TO THE NATIONAL MAINTENANCE AGREEMENT, MATERIAL, EQUIPMENT, TAXES, PERMITS, TOOLS AND SUPERVISION TO DO ALL OF THE FOLLOWING:

#### 3.1) JOB NAME: Sump/Sewer Pipe/Separator Cleanout and Disposal of Associated Solids and/or Liquids

#### 3.2) General Requirements

The Scope of Work for this project involves cleaning, removal, draining, sampling, transportation, and proper disposal of liquid and solid contents from, and plugging/abandonment of, storm sewer pipes, associated floor drain piping, former process lines, and separators located beneath Buildings 3A, 40, 40A, 50, 52 and 53. Contractor shall furnish all trade-specific union labor, materials, taxes, and equipment required to drain, clean, and properly abandon and seal the sewer pipes, process lines, floor drains, and separators. The work shall include, but not be limited to, all mobilization/ demobilization; bypass pumping/flow control; traffic control; root removal; debris removal, storage and disposal; waste removal, storage and disposal; decontamination; site restorations; permitting; field log; video equipment, and all incidentals necessary to complete the work as described in these Specifications. The site shall be restored to original conditions or better. The work shall be coordinated with LBG and plant personnel and completed in accordance with the Contract Work Schedule.

All inactive sewer pipes, process lines, floor drains and separators shall be cleaned of all fluids, sediments, and original contents using suitable means and equipment to be recommended by the contractor and approved by the Owner. Some or all of the sewer pipes may be old and fragile, and the utmost care needs to be taken so that clean-out operations do not cause the release of the sewer contents into the subsurface.

Every precaution shall be taken to minimize disruption to current plant operations. Fugitive dust, noise and/or vapor emissions shall be minimized and contained within the work area.

The Contractor shall conduct all operations in strict accordance with health and safety requirements imposed by OSHA, other pertinent governmental agencies, and the Owner. It is solely the Contractor's responsibility to follow all applicable health and safety codes and regulations governing this work. Contractor shall perform the work in accordance with the requirements of all standards, codes, regulations, and recommended practices as detailed in this Specification. In the event of conflict, the more stringent standard, code, regulation, or recommended practice shall govern.

The Contractor shall remove all debris and waste from the Owner's property and dispose of according to local, state, federal, and plant regulations. All concrete, soil, liquid and solid waste, and other debris requires Owner's approval before removing from plant property and may only be disposed of or recycled at an owner-approved facility.

#### 3.3) Background

This information was provided prior to the cleaning of these sewer pipes in July 1998. A 1967 plant utility map shows seven sewer pipes located under Building 40B (figure 1). The pipes have been labeled A, B, C, D, E, F, and G from west to east. The age of all seven pipes, their designated use, and the date they were last used is unknown. Three clay sewer pipes, (D, E, F) 8 to 12 inches in diameter, were encountered at approximately 3 feet below grade level while digging press foundations in Building 40B at the facility. The first pipe encountered (pipe "D") was an 8 to 12-inch red clay pipe. The contents of the pipe were described from samples as an oil-water mixture. The samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), RCRA metals, pesticides, PCBs, reactivity, and pH. Only lead and trichloroethene were above the EPA limits for hazardous waste. Some liquid in the pipe was removed by vac truck and the ends of the pipe were sealed with cement. The next pipe encountered was pipe "E." It is a 10 to 12-inch red clay pipe. The contents of the pipe were described as black, tarry silt, sand and gravel filling approximately ½ the diameter of the pipe. The third pipe encountered was pipe "F." It is also a 10 to 12-inch red clay pipe. The contents of this pipe were described as a beige, creamy looking substance overlaying gray sand and gravel filling approximately ½ the diameter of the pipe. The chemical contents of pipes "E" and "F" were unknown.

The condition, size, and contents of the remaining pipes are unknown. All three pipes encountered during press foundation excavation were plugged with concrete approximately 100 feet north of the south end of Building 40B. Pipes "D and E" were terminated by the newly constructed press pits, but remain under the building on the north side of the pits. Access to the remaining portions of pipes D, E, and F was gained by cutting through the concrete floor of Building 40B.

Little is known about the remaining pipes located beneath the building. The size, condition, and construction of the separator is unknown.

#### 3.4) Products

Contractor shall mark up one set of Sewer Location Plans, as provided, showing any corrections to sewer segment's location, size, pipe material, and/or pipe length. The marked up set of Sewer Location Plans shall become record documents, and shall be delivered to DaimlerChrysler upon completion of the work.

#### 3.5) Execution

#### A. Buried Structure

If the sewer line(s) is/are found to be non-accessible, Contractor shall record such information on the Sewer Location Plans ("Red Line" Drawings) maintained at the site, and inform DaimlerChrysler's Representative.

Satisfactory precautions shall be taken to protect all structures and appurtenances from damage that might be inflicted upon them by the improper use of cleaning equipment. Any damage inflected by the improper use of the cleaning equipment, regardless of the cleaning method used, shall be repaired by Contractor at no additional cost to DaimlerChrysler.

#### 3.6) Damage Prevention During Cleaning Operation

Contractor shall recognize that there are some conditions such as broken pipe and major blockages that prevent cleaning from being accomplished or where damage would result if cleaning were attempted or continued. Should such conditions be encountered, Contractor shall immediately notify the Owner and/or Owner's Representative. Immediate notification shall also be provided should any conditions warrant termination of cleaning activities.

#### 3.7) Cleaning Operations Work Plan

The Contractor's proposal shall include a written, detailed work plan and detailed schedule, which completely and thoroughly describes the proposed method of sewer entry, proposed cleaning and abandonment methods, capture of pipe contents, disposal of pipe contents, equipment to be used, and site restoration methods, as well as all other activities required for successful completion of the work. Four copies of the proposal shall be submitted to Mr. Keith Coney and is subject to the approval of DaimlerChrysler Corporation.

#### 3.8) Plant Utilities

1. Electrical Power 460 Volts/3-Phase/60 Hz.

2. Compressed Air 60 PSI

3. Water (City) 50 PSI at 55N Fahrenheit

4. Natural Gas 5-7 PSIG, 1020 BTU per Cubic Foot

5. Steam 150 PSI (reduced to 35 PSI by Vendor)

#### 3.9) Installation Site, Building Limitations

Building 40B has a clear height of 17 feet from the floor to the bottom of the trusses. The bottom of roof deck to the floor is 23 feet. Vendor will be responsible for field measuring the work areas to ensure clearance required for the completion of required work. Vendor will also be required to review the plant to determine best entry into the buildings and/or the sewers and design equipment accordingly.

#### 3.10) Insurance and Codes

All work furnished shall be in compliance with all local, State and Federal Codes and Regulations.

All work shall comply in every respect with current Federal Occupational Safety and Health Act (OSHA). Compliance with DaimlerChrysler Corporation Underwriters (I.R.I.) is required.

All work and/or materials used or provided for the specified work shall comply with all of the following:

- A. Industrial Risk Insurers Requirements
- B. OSHA Health and Safety Act
- C. Montgomery County Regulations
- D. City of Dayton Fire Safety Requirements
- E. City of Dayton Water Department Requirements
- F. DaimlerChrysler Corporate Plant Construction Codes and Standards
- G. DaimlerChrysler/Dayton Controls Specifications
- H. JIC Electrical Standards (EMP-1-1967)
- I. Insurance Underwriters Standards
- J. Walsh-Healy Act
- K. DaimlerChrysler's Specification for noise Control of Equipment dated 1982.
- L. Environmental Protection Agency Rules and Regulations (EPA)
- M. DaimlerChrysler's Electrical Standards
- N. DaimlerChrysler's Pneumatic Standards (P-1-1975)
- O. DaimlerChrysler's Hydraulic Standards (H-101973)
- P. DaimlerChrysler's Lubrication Standards
- Q. DaimlerChrysler's Motor Standards (NPEY-100)
- R. DaimlerChrysler's Color Standards (CS 25, 7-76)
- S. DaimlerChrysler's Safety Standards

The Prime Contractor will be held totally responsible for the cleaning and abandonment techniques, materials used, permits, warranties and adherence to all the nineteen (19) additional regulatory agencies or standards set forth within this set of specifications.

All other questions relating to the quote documents, its language, deadlines and/or other general information should be directed to Mr. Keith Coney.

#### 4.0 GENERAL CONDITIONS, PERFORMANCE, AND MATERIALS

#### 4.1) Laws, Ordinances, and Regulations

The Contractor shall in performance of the contract comply with all applicable Federal, State (Ohio) and Local laws (Dayton, Montgomery County). These shall include adherence to the intent of DaimlerChrysler/Dayton Thermal Products Division Plant Protection and Fire Protection regulations. The

design concepts of the systems shall comply with the requirements of the DaimlerChrysler Fire Insurance Carriers, Factory Mutual and Factory Insurance Association and OSHA.

#### 4.2) Permits

All permits shall be obtained and all inspection fees shall be paid for by the Contractor for all work requiring such.

#### 4.3) Union Labor

Contractor shall provide trade-specific union labor as required by the terms of the National Maintenance Agreement, the local collective bargaining agreement, and/or as required by the Owner.

#### 4.4) Minority Business Enterprise

Bidders are encouraged to include Minority Business Enterprise (MBE) firms for subcontracted services and/or supplies, when possible. Such MBE firms must be certified by an Owner-approved state or national MBE certification entity. Bidder shall identify any such proposed MBE sub-contractors in their bid.

#### 4.5) Use Of Premises

Work hours shall be limited to no earlier than 6:30 a.m., Monday through Friday. If completion of the work by the specified completion date requires modification of these work hours, Contractor shall indicate any proposed changes in his bid submittal.

The Contractor shall confine their equipment, storage of materials, and the operations of their workmen to limits indicated by law, ordinances, permits and directions of the Owner and shall not unreasonably encumber the premises with their materials. The Contractor shall not load or permit any structure to be loaded with a weight that will endanger its safety. The Contractor shall enforce the Owner's instructions regarding signs, advertisements, fires and smoking.

The Contractor and all Sub-Contractors and their employees shall be subject to and at all times conform to the Owner's rules and requirements for the protection of the plant, materials, equipment and Owner's employees. If required by the Owner, the Contractor shall furnish their employees with a special badge or card which will identify them as employees and admit them to such portions on the premises as may be designated by the Owner.

Smoking on the premises will be permitted only in areas where the Owner's regulations do not forbid the same.

#### 4.6) Delivery Of Materials

The Contractor shall pay all demurrage that may accrue on all cars of material or equipment furnished by him in connection with the work. The Contractor shall be responsible for the unloading, checking and storing of all material owned or used by him in connection with the work.

The Contractor shall cause all materials which he purchases for use on the work to be consigned directly to the Contractor as consignee, and shall handle all matters pertaining to freight charges for demurrage directly with the carriers involved.

#### 4.7) Removal Of Unfit Materials

Upon notification by the Owner, the Contractor shall immediately remove and replace to the satisfaction of the Owner, all material and work of unsound or unfit character.

The expense of removing, reconstructing, replacing or refinishing unsound or unfit materials and work, the cost of making good other work affected thereby, and the cost of delays resulting therefrom, shall be borne by the Contractor and no extension of time will be allowed for such correction of faulty material or work.

#### 4.8) Moving Materials

If it becomes necessary at any time during the performance of the work to move materials which are to enter into the construction, or equipment which has been temporarily moved and is to enter into the construction when so directed by the Owner, the Contractor shall move or cause the same to be moved without additional charge.

#### 4.9) Accident Prevention, Health and Safety

Sewers previously cleaned in Building 40B contained an oil phase that exceeded TCLP limits for lead at 18 milligrams per kilogram (mg/kg) and for trichloroethene (3,060  $\mu$ g/kg). Analyses of the oil phase of the sample also reported detections of cis-1,2-dichloroethene (1,940 micrograms per kilograms [ $\mu$ g/kg]), and n-propylbenzene (1,470  $\mu$ g/kg). Methylene chloride and acetone were reported at concentrations above detection limits, however these are common laboratory reagents and may not actually be present in situ. The water phase of the sample exceeded detection limits for cis-1,2-dichloroethene (274  $\mu$ g/kg).

Detectable concentrations of various chlorinated compounds including, but not necessarily limited to, tetrachloroethene (PCE), trichloroethene (TCE), 1,2-dichloroethene (DCE), 1,1,1-trichloroethane (TCA), and methylene chloride, have previously been reported from soil and/or soil gas samples collected from Building 40B. Though not previously reported from sample analyses, vinyl chloride is a known degradation product of at least some of these detected compounds. Therefore, the Owner cannot discount or confirm the possible presence of vinyl chloride.

The Contractor shall provide documentation to the Owner, prior to beginning the work, that all on-site Contractor employees, sub-contractors, and personnel have been trained in the proper use of protective clothing and other personal protective equipment (PPE) in accordance with 29 CFR Part 1910 ("Hazwoper").

The Contractor is solely responsible for the health and safety of its employees, sub-contractors, and personnel. The Contractor shall prepare and submit to Owner, prior to beginning the work, a site-specific health and safety plan prepared in accordance with applicable OSHA requirements.

The Contractor shall provide its employees with approved eye protection, which they will be required to wear at all times in the Owner's plant. Also, Contractors and their employees will wear appropriate protective headgear (hard hats) while performing work in any part of the plant, building or property. Contractor shall supply all other PPE as required to complete the work. The Contractor shall be prepared to upgrade PPE levels, without undue interruption or delay of the work, should conditions warrant.

The Contractor shall provide a designated health and safety officer, thoroughly trained and familiar with health and safety supervision and monitoring, to monitor and supervise working conditions and Contractor's employees, sub-contractors, and personnel. The designated officer shall be on duty at all hours that Contractor's employees, sub-contractors or personnel are working to patrol the premises and with authority to set required levels of PPE for conducting the work, to establish and maintain health and safety work zones as necessary, and to take immediate remedial action to assess the potential of, and minimize or eliminate, health and safety issues related to the work.

The Contractor shall provide and properly maintain monitoring equipment and devices, warning signs and lights, barricades, vapor barriers, railings and other safeguards for the protection of Contractor's and Owner's workmen and others on or about or adjacent to the work, as required by the conditions and progress of work and/or as directed by the Owner.

The Contractor shall provide and properly maintain a suitable means of monitoring, mitigating, controlling and/or venting fugitive vapors and exhaust fumes which may contain unpleasant, irritating, toxic and/or hazardous substances, that may result from the work, subject to approval of the Owner. It is intended that such fugitive vapors or fumes, if generated or encountered, be mitigated, controlled, and/or vented so as to protect worker health and safety and comfort. In no instance shall such vapors or fumes be detected olafactorily or otherwise, outside the boundaries of the designated work areas.

The Contractor shall comply with the "Safety and Engineering Practices" set forth in the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America and with all applicable State and Local Safety and Sanitary Laws, Regulations and Ordinances, as well as the established safety rules and practices of the Owner.

The Contractor shall properly protect the Owner's and adjoining property from injury and except as hereinafter provided in the section entitled "Owner's and Contractor's Responsibilities for Fire and Extended Coverage Insurance Hazards," shall at his expense, make good any damage to same without delay.

Any electrical machinery or equipment used in the Owner's plants, must be equipped with suitable electrical receptacles and/or connectors. Temporary exposed wiring connections will not be permitted.

#### 4.10) Explosives

The Contractor shall obtain the permission of the Owner before using dynamite or other explosives on the property of the Owner and shall be governed by the established safety rules and practices of the Owner and City and State Regulation in their use and storage.

#### 4.11) Fire Protection

The Contractors and Sub-Contractors shall take all necessary precautions to guard against and eliminate all possible fire hazards and to prevent damage to any construction work, building materials, equipment, temporary field offices, storage sheds, and all other property, both public and private. The location of the nearest corporation or public fire alarm box and the phone number of the local fire department shall be conspicuously posted by the Contractor throughout the field offices and in the building structure adjacent to this work.

The Contractor's superintendent in charge of the project, together with the Owner shall inspect the entire project at least once each week to make certain that they adhere to the conditions and requirements set forth herein.

Employees shall not be allowed to start fires with gasoline, kerosene, or other highly flammable materials. No open fires will be permitted.

No welding, flame cutting, or other operations involving the use of flame, arcs or sparking devices will be allowed without adequate protection and shielding particularly at the point of operation and prior permission of the Plant Engineer. All combustible or flammable material shall be removed from the immediate working area. If removal is impossible, all flammable or combustible materials shall be protected with an asbestos fire blanket or suitable non-combustible shields to prevent sparks, flames, or hot metal from reaching the flammable or combustible materials. The Contractor shall provide the necessary personnel and fire fighting equipment to effectively control incipient fires resulting from welding, flame cutting or other operations involving the use of flame, arcs or sparking devices.

#### 4.12) Flammable, Toxic and Hazardous Materials or Substances

Gasoline, benzene or like combustible materials, together with all flammable or waste material subject to spontaneous combustion, or other toxic or hazardous materials or substances, including excavated soils, liquid, and solid sewer pipe contents, and fugitive vapors or exhaust fumes, shall not be improperly handled, stored, discharged to the air or ground, or be poured into sewers, manholes or traps, but shall be treated and/or disposed of, in a manner approved by the Owner and in accordance with applicable local, state, and federal requirements. The Contractor shall obtain permission from the Owner before bringing/removing any of the foregoing materials to/from the site and shall make appropriate arrangements for storing of the same.

The Contractor shall provide all necessary equipment to clean and/or decontaminate excavation or other equipment, including but not limited to, a steam cleaner/pressure washer and decontamination pad. The Contractor shall collect and properly contain any fluids or solids resulting from such cleaning and/or decontamination.

Not more than a one (1) day supply of flammable liquids such as oil, gasoline, paint or solvent shall be brought into any building at any one time. All flammable liquids having a flash point of 110 degree F or below, which must be brought into any building, shall be confined to the Underwriter's Laboratories labeled safety cans. The bulk supply of all flammable liquids shall be detached at least 75 ft. from the building and from yard storage of building materials. Spigots on drums containing flammable liquid are prohibited on the project site. Drums are to be equipped with approved vented pumps.

No tar melting kettles or tar heating devices of any kind will be permitted inside, on the roof or within 50 ft. of any building. When any of these conditions cannot be complied with, then a special written deviation permit must be issued by the Plant Engineering Activity and approved by the local Plant Protection Department. Deviation requests will only be approved in exceptional circumstances.

All tarpaulins used during the course of construction shall be of a flameproof type secured in place against damage or "flapping" from the winds.

All oil soaked rags, papers and other combustible materials shall be removed from any building at the close of each day's work or more often if necessary, and shall be placed in metal containers with self-closing lids.

#### 4.13) Fire Protection

The Contractor shall be responsible at his expense during the entire construction period for providing and maintaining the following material, equipment and services and for meeting the following conditions and requirements.

#### 4.14) Fire Extinguishers

Provide and maintain in working order at all times, during construction, not less than four (4) fire extinguishers conveniently located for proper protection for each building having 5,000 sq. ft. of total floor area or less. One (1) additional fire extinguisher shall be provided for each additional 5,000 sq. ft. of floor area.

Fire extinguishers shall be either a 2½ gallon capacity water type gas cartridge expelled unit or a 5 gallon capacity pump type protected from freezing by use of calcium chloride, all to meet the approval of the Fire Underwriter's Laboratory, and shall be inspected at regular intervals and recharged if necessary.

In areas of flammable liquid, asphalt or electrical hazards, extinguishers of the 15 lb. carbon dioxide type or 20 lb. dry chemical type shall be provided.

At least one (1) qualified person satisfactory to the Owner and thoroughly familiar with fire protection and prevention, shall be on duty at all hours that Contractor's employees are working to patrol premises with authority to take immediate remedial action to eliminate unnecessary fire hazards.

#### 4.15) Patching And Replacing Of Damaged Work

The Contractor shall be held responsible for all damage to the work that is caused by his work, workmen or by his Sub-Contractor. Patching and replacing of damaged work, except as provided under the heading of "Glass Damage," shall be done as directed by the Owner, but the cost of the same shall be paid by the Contractor.

At completion of the work, damage to the buildings, roofs, drivers, walks, underground and overhead work, etc., shall be made good to the satisfaction of the Owner at the Contractor's expense.

The Contractor shall be responsible for any and all loss of materials connected with the construction because of unexplainable disappearance, thefts or misappropriations of any kind or nature.

#### 4.16) Glass Damage

When a Contractor is designated by specifications or otherwise as the General Contractor, he shall be responsible for all breakage of or other damage to glass permanently installed in the buildings up to the time the buildings are turned over to the Owner.

#### 4.17) Cleaning Of Premises

The Contractor shall at all times keep the entire premises free of rubbish and debris caused by his work and his employees, or by his Sub-Contractors, and upon completion of the work shall leave all buildings and surroundings included in the contract broom-clean. The Contractor shall also remove from the premises all items such as temporary partitions, office and storage sheds, fence material, etc., which are used for temporary purposes during construction.

Should the Contractor fail to do the required cleaning work immediately upon request, the Owner may do the cleaning work and charge the cost of same to the account of the Contractor.

#### 4.18) Building Roof

The Contractor is expected to use maximum care to protect the Owner's roof at all times. All materials stored on the roof shall be set on planks and spread to reduce the weight loading. Movement across the roof shall be on planks. The Contractor shall be responsible for any damage incurred by material movement or equipment installation.

#### 4.19) Demolition And Removal Work

Demolition includes removal, proper storage, and disposal of demolished materials, as directed by Owner.

Submit proposed methods and operations of building demolition to Owner's Representative for review prior to start of work. Include in schedule coordination for shut-off, capping and continuation of service

encountered.

Conduct demolition operations and removal of debris to ensure minimum interference with adjacent occupied or used facilities.

Do not close aisles or obstruct Owner's operations or facilities without written permission from the Owner's Representative.

Ensure safe passage of persons around area of demolition. Conduct operations to prevent injury to structures, facilities and persons.

Provide interior dust proof partitions to separate Owner occupied areas and construction areas as determined by the Owner's Representative; partitions shall be 2" x 4" wood stud covered with ½" plywood or 6 mil polyethylene sheet or other system acceptable to the Owner's Representative; tape all joints, provide gasket at sill and header plate; carry partitions to construction above; provide hinged wood doors or overlapping sheet plastic doors.

Promptly repair damage caused to adjacent facilities or construction by demolition operations and at no cost to the Owner.

Maintain existing utilities that are to remain, keep in service, and protect from damage.

Use water sprinkling, temporary enclosure, and suitable means to limit dust and dirt rising and scattering in air to lowest practical level.

Removal of concrete shall begin with a saw-cut full depth of slab.

Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations, and acceptable to the Owner's Representative. Return adjacent areas to condition to existing prior to start of work.

Removal work includes, but is not limited to the following:

- a) Removal of portion of concrete floor and/or parking lot surfaces for sewer line access.
- b) Restoration of same.

#### 4.20) Earthwork

**Existing Utilities:** Locate by hand excavation and provide protection from damage. Cooperate with Owner for maintaining services. Do not break utility connections without providing temporary services. Repair damages to existing utilities as directed by the Owner's Representative.

**Protections:** Protect structures, utilities and other facilities in areas of work. Barricade open excavations and provide warning lights. Comply with regulations of authorities having jurisdiction.

**Shoring:** Provide bracing, shoring, and/or sheeting as required in any excavation, to maintain sides and to protect adjacent structures from settlement, complying with Local Codes and Regulations. Maintain until excavations are back-filled.

Fill Material: Naturally or artificially graded mixture of natural or crushed gravel, or crushed stone, free of vegetation or other objectionable materials.

**Excavation:** Excavation shall proceed with care to avoid damage to both known and unknown underground services. Remove, properly store, and dispose of material, as directed by Owner and at an Owner-approved facility, to obtain required sub-grade elevations, including floor slab, obstructions visible on ground surface, underground structures and utilities indicated. Owner will provide sampling and analysis of excavated materials.

**Back-fill & Fill:** Back fill shall be certified clean and be of granular material free from clay, loam or perishable materials. The approved granular material shall be compacted to a density equivalent to 95 percent modified proctor. Place and compact fill material in maximum 8" layers to required elevations. Backfill excavations as promptly as work permits.

**Compaction:** Compact each layer of back-fill and fill materials and the top 12" of sub-grade for structures and slabs to 95 percent maximum density.

**Disposal:** Remove and dispose recovered liquids and solids, excavated material, trash, debris, and waste material from site, as directed by the Owner, at an Owner-approved facility.

#### 4.21) Concrete

Codes & Standards: Latest edition of ACI #301 "Specifications for Structural Concrete Buildings," ACI #302 "Recommended Practice for Concrete Floor and Slab Construction," American Concrete Institute;

"Manual of Concrete Practices," ACI #347 "Recommended Practice for Concrete Form-work," ACI #318 Building Code Requirements for Reinforced Concrete." Contractor shall comply with the applicable provisions except as otherwise indicated and with the following supplemental requirements:

- a) All concrete shall be normal weight with aggregates conforming to ASTM C33.
- b) Concrete shall develop the following 28-day compressive strength (FC'):

Floor Slab - 4,000 PSI

Foundation - 3,500 PSI

- c) Chloride based admixtures are prohibited in all reinforced concrete. Other admixtures shall conform to ASTM C494.
- d) Reinforcing steel shall be deformed bars conforming to A615 Grade 60, unless otherwise indicated with a minimum yield stress (FY) of 60,000 PSI. The minimum lap for splice shall be 3"-0."
- e) Concrete cover or reinforcing steel shall be 3" unless otherwise noted.
- f) Maximum slump shall be 4" +/-1" as determined in accordance with ASTM C143.
- g) Concrete Finish:

Floor Slabs - Hand trowel FF 30/FL 25 Finish

Paving Slabs - Float/Broom

Admixtures: Use air-entraining admixture, unless otherwise indicated. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having air content within following limits:

- a) Slab and curb 2 to 4 percent air.
- b) Proportion and design mixes to result in concrete slump at point of placement as follows. Slab and curbs not less than 1" and not more than 4."

**Normal Weight Concrete Properties:** Design mixes to provide normal weight concrete to provide 4000 PSI strength unless otherwise indicated on drawings and schedules, and based on following ACI Standard Sections.

- a) ACI #318 77, Chapter #4.
- b) ACI #211.1 77.

#### 4.22) Concrete Materials

Portland Cement ASTM-C #150, type as required.

Aggregates ASTM-C #33, except local aggregates of proven durability may be used when acceptable to Owner's Representative.

Water clean, drinkable.

Air-entraining admixture ASTM-C #260.

Water reducing admixture ASTM-C #494. Only use admixtures which have been tested and accepted in mix designs, unless otherwise acceptable.

#### 4.23) Related Materials

Replace asphalt, as required, to match existing.

Liquid curing-hardening sealing compound Curecrete Chemical Company "Ashford Formula".

#### 4.24) Reinforcing Material

Welded wire fabric ASTM #185.

#### 4.25) Forming And Placing Concrete

Job-site mixing use drum batch machine mixer, mixing not less than 1½ minutes for one (1) cubic yard or smaller capacity. Increase mixing time at least 15 seconds for each additional cubic yard or fraction thereof.

#### 4.26) Form-work

Construct form-work so that concrete members and structures are of correct size, shape, alignment, elevation and position.

#### 4.27) Installation Of Embedded Items

Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by cast-in-place concrete. Use setting diagrams, templates and instructions provided by others for locating and setting.

#### 4.28) Concrete Placement

Comply with ACI placing concrete in a continuous operation within planned joints or sections. Do not begin placement until work of other trades affecting concrete is complete. Consolidate placed concrete using mechanical vibrating equipment with hand rodding and tamping, so that concrete is worked around reinforcement and other embedded items and into forms.

#### 4.29) Concrete Finishes

**Exposed-To-View Surfaces:** Provide a smooth finish for exposed concrete surfaces. Remove fins and projections, remove defective areas and repour to match existing.

**Slab Trowel Finish:** Apply trowel finish to monolithic slab surfaces that are exposed-to-view. Consolidate concrete surfaces by finish troweling free of trowel marks, uniform in texture and appearance.

Curing-Sealing-Hardening Finish: As necessary or required, apply selected sealant or hardener to floor areas, as soon as surface is firm enough to walk on and before hairline checking and temperature checking occurs, and by methods and at rates of application as recommended by the material manufacturer.

#### 4.30) Metal Fabrication

Codes & Standards: Latest edition of AISC "Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings" including "Commentary," AWS "Structural Welding Code," comply with applicable provisions unless otherwise indicated.

Steel Plates, Shapes and Bars: ASTM-A #36.

Unfinished Fasteners: Nuts and bolts, ASTM-A #307 grade.

**Shop Paint:** FS TT-P-86, Type II, SSPC-Paint #2, or Tnemec Company Inc. "99 Red Metal Primer." Apply to cleaned and degreased steel surfaces at rate to provide a 2.0 mil dry film thickness.

Miscellaneous Framing And Support: Provide as required to complete work. Fabricate of welded construction in as large units as possible. Include required anchors for building into other work; spaced not more than 24" on centers.

**Installation:** Perform cutting, drilling and fitting required for installation, set work accurately in location, alignment and elevation, measured from established lines and levels. Provide anchorage devices and fasteners where necessary for installation to other work. Touch-up shop paint after installation. Clean field welds, bolted connections and abraded areas, and apply same type paint as used in shop.

#### 4.31) Flashing And Sheet Metal Work

Fabrication: General, comply with "Architectural Sheet Metal Manual" by SMACNA, for each general category of work required.

#### **END OF DOCUMENT**

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# Ohio Department of Natural Resources

BOB TAFT, GOVERNOR

SAMUEL W. SPECK, DIRECTOR

October 2, 2003

Mr. Dave Hanson Earth Tech 4135 Technology Parkway Sheboygan, WI 53083

Mr. Hanson:

This is in response to your September 17, 2003 request for information pertaining to water well records in the vicinity of Dayton Ohio, Montgomery County (rectangular area bounded by Stanley St, Leo St, Webster St, and railroad tracks). I am enclosing copies of water well logs from the "located" set of well logs on file with the Division of water for these sites. I found four well logs that did not have the original report on file, I circled them (# 91-94) on the location map enclosed. There may be other water wells within the specified one-mile radius in the "unlocated" set of well logs for this area.

In future requests please provide the County, Township, and location information spotted on a U.S.G.S. topographical map. If you have any questions please contact me by phone at: (614) 265-6746, by fax at: (614) 265-6767, or by email at: <a href="wrintern@dnr.state.oh.us">wrintern@dnr.state.oh.us</a>

Also, please note that well log data (without location map) can be obtained on our web site at:

http://www.dnr.state.oh.us/water/maptechs/wellogs/app/default.asp

Sincerely,

Leslie Walker, Intern

Ohio Department of Natural Resources

Division of Water

Water Resources Section

# WELL OG AND DRILLING REPCT

ORIGINAL

NO CARBON PAPER NECESSARY-SELF-TRANSCRIBING

State of Ohio DEPARTMENT OF NATURAL RESOURCES

Division of Water Fountain Square Columbus, Ohio 43224. 537269 Tiv

			Dayton ) 36 section of township Arreage
OWNER Con sughe	rownship	id ave	ADDRESS /42 WAGE
CONSTRUCTION D			BAILING OR PUMPING TEST
asing diameter	th of casing_ th of screen_		Test rate gpm
well Log•			SKETCH SHOWING LOCATION
Formations: sandstone, shale, limestone, gravel, clay	From	То	Locate in reference to numbered state highways, street intersections, county roads, etc.
Dosoil Dry Dravel Blue Clay Water, Sand & Bravel	0 ft 2 28 37	2 ft 28 37 47	N W
5368			S

SIGNED.

\*If additional space is needed to complete well log, use next consecutive numbered form.

# WEL LOG AND DRILLING REPUT

State of Ohio

PLEASE USE PENCIL OR TYPEWRITER DO NOT USE INK.

Address WELL CONTRACTOR
3901 S. DIXIE DR.

DAYTON 9, OHIO

DEPARTMENT OF NATURAL RESOURCES

Division of Water

1560	<b>TX7</b>	T2:	A
1304	W.	FILST	Avenue

Columbus 12, Ohio Onton

Nº 320940

County Montgomery.	Township	Harris	Section of Township	, Onio
Owner Morris Real	rstat	e lo,	Address 2020 Webst	12 r
Location of property 203	5 Evel	· 40-	Dayton 45404	·
CONSTRUCTION	DETAILS		BAILING OR PUMPING	rest
Casing diameter 572 Len			Pumping Rate 55 G.P.M. Duration Drawdown ft. Date 3.20	
Type of screenLen	_		Static level-depth to water 20	
Type of pump			Quality (clear cloudy, taste, odor)	
Capacity of pump			Quality (clear) croudy, taste, odor)	
Depth of pump setting			Pump installed by	
Date of completion			Pump installed by	***************************************
WELL LO	)G		SKETCH SHOWING LOCA	TION
Formations Sandstone, shale, limestone, gravel and clay	From	То	Locate in reference to numb State Highways, St. Intersections, Cou	
Sante.	0 Feet 32 37 73 74 85	32.FtJ 3734 7750 110	N. Standard	E.
1251			See reverse side for instructi	ions
Drilling FirmCLAY P. G	ARRISC	).N	Date Fol 18 1965	

## WEL' LOG AND DRILLING REP'RT

ORIGINAL

NO CARBON PAPER NECESSARY-

State of Ohio DEPARTMENT OF NATURAL RESOURCES Division of Water

No. 420738

SELF-TRANSCRIBING

65 S. Front St., Rm. 815 Phone (614) 469-2646 Columbus, Ohio 43213

Dayton

Montgoning Township Section of Township. 4 Address 333 Leo Stut Location of property. BAILING OR PUMPING TEST CONSTRUCTION DETAILS (Specify one by circling) Test Rate 727 G.P.M. Duration of test 7 hrs. Casing diameter. Length of casing... Drawdown 48'6" ft. Date 12-27-72 Length of screen 30' Type of screen X. Static level-depth to water... · Turbine Type of pump. Z. Quality (clear, cloudy, taste, odor) Capacity of pump 600 CPM Depth of pump setting 98' Pump installed by-Date of completion. WELL LOG\* SKETCH SHOWING LOCATION **Formations** Locate in reference to numbered Sandstone, shale, limestone, From To State Highways, St. Intersections, County roads, etc. gravel and clay N. 0 Feet Ft. 5 51 10' 10' 12 2/ 42' 501 WELL W. E. 701 501 70' 81 961 100 10 S. Drilling Firm MOODY'S OF DAYTON, INC. Date \_ P. O. BOX 155 Address VANDALIA, OHIO 45377 Signed

\*If additional space is needed to complete well log, use next consecutive numbered form.

# W'L LOG AND DRILLING REPORT

ORIGINAL (12)

State of Ohio
DEPARTMENT OF NATURAL RESOURCES

Division of Water 1500 Dublin Road Columbus, Ohio

No. 179367

J			bus, Onio	
County Montgoney				
·	,	•	Address 333 to St. La	ylon O
Location of property.	333	Lo Li	plant, Dayton Olico	•
CONSTRUCTION	DETAILS		BAILING OR PUMPING TEST	
Casing diameter	gth of casin	g 76	Pumping rate 40 G.P.M. Duration of tes	it /2 hr
Type of screen Red Brass Len	gth of scree	n 10	Drawdown 10 ft. Date //b/	56
			Developed capacity 400 Mpm.	
			Static level—depth to water 14	ft
			Pump installed by	
Date of completion			-	
WELL LO	G		SKETCH SHOWING LOCATIO	N
Formations Sandstone, shale, limestone, gravel and clay	From	То	Locate in reference to numbered State Highways, St. Intersections, County	roads, etc.
Grand. Grand. Tell Grand	0 Feet 5/3 36 56	5 Ft. 136 56 76	W. 333 Leadt & S. See reverse side for instructions	E.
Drilling Firm Daald	J.Ra	٤	Date 1/16/56	·•
Address / Vandale	a Oli	a de la companya dela companya dela companya dela companya de la companya de la companya de la companya dela companya de la companya dela compan	Signed Dorcald Ma	2

Owner Durdett OXY GCM	ate of Ohio F NATURAL RESOURCES Sion of Water Lumbus, Ohio Section of Township or Lot Number  Address 1223 Mc Cook Ave Dayton, Ave Dayton Ohio
Casing diameter / Length of casing / 1/2  Type of screen Will WindLength of screen / O  Type of pump  Capacity of pump  Depth of pump setting	Drawdown 10 ft. Date April 16, 1951  Developed capacity 2006 PM  Static level—depth to water 35 Feet ft.
Formations Sandstone, shale, limestone, gravel and clay  Dry Gralle   20 32  Coarse Grave   32 40  Coarse Grave   40 50  Blue Till With Stores 53 79  Coarse Grave   79 86  Nater Grave   100  Mater Grave   110	State Highways, St. Intersections, County roads, etc.  N.  N.  W.  E.

Address / Andalia (1/2)

4059

Date April 16, 1951

S.
See reverse side for instructions

# WEL' LOG AND DRILLING REPORT

PLEASE USE PENCIL OR TYPEWRITER DO NOT USE INK.

Address 5859 Brantford Rd

Dayton Unio.

# State of Ohio DEPARTMENT OF NATURAL RESOURCES

Division of Water
1562 W. First Avenue
Columbus 12, Ohio

Nº 299227

County wontgomery	. Township	लस्य <u>म</u>	Section of Township.	
Owner Globe Industri	es Inc		Address 1784 Stanley Ave Dayton Ohio	
Location of propertyB	O Railwa	y & Star	nley ave	
CONSTRUCTION	DETAILS		BAILING OR PUMPING TEST	
Casing diameter 10 Ler			Pumping Rate 500 G.P.M. Duration of test 5 hr Drawdown 32 ft. Date 6/20/64	
Type of pump			Static level-depth to waterf	
Capacity of pump RETURN W			1	
Depth of pump setting				
Date of completion 6/20	/64		Pump installed by	
WELL LO	OG		SKETCH SHOWING LOCATION	
Formations Sandstone, shale, limestone, gravel and clay	From	То	Locate in reference to numbered State Highways, St. Intersections, County roads, etc.	
Top soil	0 Feet	<u>1</u> Ft.	N.	
Dry Gravel	1	28	i i	
Vater sand& Gravel	28	72		
Hardpan	72		W.STANLEY ALE E.	
1644			S. See reverse side for instructions	

## WEL' LOG AND DRILLING REPORT

AD DRILLING KEPT ()

PLEASE USE PENCIL OR TYPEWRITER DO NOT USE INK.

# State of Ohio DEPARTMENT OF NATURAL RESOURCES Division of Water 1562 W. First Avenue

Nº 299226

ORIGINAL

Columbus 12, Ohio County Montgomery Township Mad Section of Township..... Owner Globe Injustries Inc. Address 1784 Stanley Ave Location of property B & O Railway & Stanley Ave CONSTRUCTION DETAILS BAILING OR PUMPING TEST Pumping Rate 250 G.P.M. Duration of test 5 hrs. Casing diameter 8" Length of casing 60 Drawdown 7 ft. Date 6/10/64 Type of screen NN#80 Length of screen 10 Type of pumpSubmergible 72 H.F. Static level-depth to water......ft. Quality (clear, cloudy, taste, odor) Clear Capacity of pump 250 G.P.M. Depth of pump setting 55 Date of completion 6/10/64 Pump installed by Scott Well & Pump co WELL LOG SKETCH SHOWING LOCATION **Formations** Locate in reference to numbered Sandstone, shale, limestone, From To State Highways, St. Intersections, County roads, etc. gravel and clay 0 Feet ...2....Ft. N. iV Dry Gravel 26 70 later sand and Gravel 26 70 Jardoan Supply well;; Not for Domestic Use E. S.

Drilling Firm poott wall & Funn So

Address 5059 Brantford ...

Dayton Chio.

1644

Date 5/10/64

Signed W. Scatt

M.U.Scott

See reverse side for instructions

27

# LOG AND DRILLING RE' 'NT

ORIGINAL

NO CARBON PAPER NECESSARY -SELF-TRANSCRIBING

State of Ohio DEPARTMENT OF NATURAL RESOURCES

Division of Water Fountain Square Columbus, Ohio 43224 578207

production well

OWNER Eastway Min	tal fle	elte	_ ADDRESS_1150 Webster St.
LOCATION OF PROPERTY	Dayton	, Ohio	
CONSTRUCTION	DETAILS		BAILING OR PUMPING TEST (specify one by circling)
Casing diameter			Test rate 60 gpm Duration of test 12 h
Type of screen <u>1.5107 5.5.</u> Le	ength of screer	1 <u>/ / / / / / / / / / / / / / / / / / /</u>	Drawdown 16:2" ft Date March 24, 1981
Type of pump <u>Submessible</u>			Static level (depth to water)
Capacity of pump	1 15'		Quality (clear, cloudy, taste, odor) <u>alest</u>
Depth of pump setting <u>accomendate</u>			Ran
Date of completion			Pump installed by Roone
WELL LO	G*		SKETCH SHOWING LOCATION
Formations: sandstone, shale, limestone, gravel, clay	From	То	Locate in reference to numbered state highways, street intersections, county roads, etc.
Black CINCER FIX	0 ft	12 ft	<i>i</i> ) <b>N</b>
Deggraves	12'	23'	
Grey HAROPAN	34'	39'	,
W.B. BLACK SAND	39'	40'	/
DIRTY WBSG (BLACK)	40'	47'	Keowee St.
COARSE WESG (Black)	47'	82'	WEBSTER ST.
W/LARGE PORMIES			
CARSE WBSG W/CLAY	82'	98'	
Grey HAROPAN	98'	102'	W / Suell
BLACK heaving SAND	102'	105'	mi buthy School
		ļ	·
NOTATION = 214"STO.	_	<u> </u>	DANIEL ST.
DIPE PITACHED TO			
BOTTOM OF SCREEN W			
WELDED PLATE, SCREEN			/
Sty from 81'-71'			
5169	1		S

SIGNED Al Boone

#### County Permit No.

#### LOG AND DRILLING REF 'RT WEL

State of Ohio DEPARTMENT OF NATURAL RESOURCES Division of Water Fountain Square

Columbus, Ohio 43224

578218

NO CARBON PAPER NECESSARY -SELF-TRANSCRIBING

LOCATION OF PROPERTY	stway Ment	at nearwi	Center 1150 Webster St.
CONSTRUCTION	DETAILS		BAILING OR PUMPING TEST (specify one by circling)
Casing diameter 6 5/8 Len	gth of casing_	71'	Test rate 80 gpm Duration of test 24 hrs
Type of screen ss v-slot Len	gth of screen <b>1</b>	01 .80	Drawdown 1.5! ft Date March 24,1981
Type of pump 90 gom sub.			Static level (depth to water)f
Capacity of pump	····		Quality (clear, cloudy, taste, odor)clear
Depth of pump setting251			
Date of completionMarch_20, 198	1		Pump installed by
WELL LOG	*		SKETCH SHOWING LOCATION
Formations: sandstone, shale, limestone, gravel, clay	From	То	Locate in reference to numbered state highways, street intersections, county roads, etc.
Black Fill	0 ft	12 ft	N
Dry Gravel	12	23	
Grey Hardpan	23	39'	·
Black WBS	39	40	ı
Dirty WBSG (black)	40	47	Webster St.
Coarse WBSG	47	82	, 63 TER
WBSR w/Clay	82	98	Jule .
Grey hardpan	98	102	
Black sand	102	105	W E
			SCHOOL WELL (SUPPLY)
5061			S

#### WELL LOG AND DRILLING REFORT

ORIGINAL

NO CARBON PAPER NECESSARY-SELF-TRANSCRIBING

State of Ohio DEPARTMENT OF NATURAL RESOURCES Division of Water Fountain Square Columbus, Ohio 43224

578217

COUNTY Montgomery	TOWNSHIP_	City of Da	secti	ON OF TOWNSHIP
OWNER State of Ohio Dept	t. of Ment:	al Health	ADDRESS 1150	Webster St.
	ayton , Oh:		Same	
CONSTRUCTION	DETAILS		В.	AILING OR PUMPING TEST (specify one by circling)
S.S. v-slot	gth of casing_ gth of screen_	10' .140"	Test rate 80 gpm Duration of test 24 hrs,	
WELL LOG	•	***	SK	ETCH SHOWING LOCATION
Formations: sandstone, shale, limestone, gravel, clay	From	То	3	ocate in reference to numbered vs, street intersections, county roads, etc.
Black Fill	0 ft	8ft		N
Dry gravel	8 tan	28 '		
Brown WBSG	28	46		
Coarse WBSG ( brown)	46	75'		<b>.</b>
Grey hardpan	75	78	<b>w</b>	The war Fin E
50c)				School Frances (RETURE, W)
11				
DRILLING FIRM Boone "ater	Systems		DATEDec	ember 16, 1981
ADDRESS 1519 S. Central			SIGNED	

SIGNED \_\_

#### WEI LOG AND DRILLING RET RT

ORIGINAL

NO CARBON PAPER
NECESSARY SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES

Division of Water

578208

Fountain Square Columbus, Ohio 43224 Return Well

COUNTY Montgomery	TOWNSHIP	1 17 . 1	SECTION OF TOWNSHIP	
OWNER Strong Muntal  LOCATION OF PROPERTY DE	reston,	Ohio	_ ADDRESS_1150 Webster All.	
CONSTRUCTION			BAILING OR PUMPING TEST (specify one by circling)	
Casing diameter (570. Len Type of screen (570. Len Type of pump LETULN WELL Capacity of pump Depth of pump setting 25 DISCHARG	e w w	10'	Test rate gpm Duration of test Drawdown ft Date	
Date of completion March 20,	1981		Pump installed by	
WELL LOG	*	- <u> </u>	SKETCH SHOWING LOCATION	
Formations: sandstone, shale, limestone, gravel, clay	From	То	Locate in reference to numbered state highways, street intersections, county roads, etc.	
Black PINDER FILL  DRY GRAVEL-  28 BROWN (UBSG (SILT)  COAKSE WBSG (BROWN)  WB BROWN SAND (FINE)  WBSG (OGRSE (BROWN)  LLUY KANGERN  NOTATION: 3'5"STO. PIPE  WEIDED ON BOTTOM OF  SCREEN W/ FINTE	0 ft  8  28'  44'  40'  75'	8 ft 28' 46' 54' 60' 75' 78'	WERSTERST.	
SCREEN SET 75'-65' TOP 5' .90 SLOT BOTTOM 5' .140 SLOT			S	

 $<sup>^{</sup>f \#}$  If additional space is needed to complete well log, use next consecutive numbered form.

#### W' 'L LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES

Division of Water 1500 Dublin Road

No. 201049

<b>%</b> .		Columi	ous, Ohi	io Dayton)	- 100 m
County MONtaine	Township	A. J.		Section of Township	
Owner Blue Bir	d or	<u>a</u> Co.	<b>A</b> ddı	ress	
Location of property	Yisu	SH		Dayton, Olio	
CONSTRUCTION	DETAILS			BAILING OR PUMPING TEST	
Casing diameter 6" Len	igth of casin	ng 91'	Pumpi	ng rate 15 G.P.M. Duration of test 14	CO hrs
Type of screen Ler			1	own NONE ft. Date Al Sam 6	
Type of pump			Develo	ped capacity 6000	
Capacity of pump 300	SPH		Static	level—depth to water	ft
Depth of pump setting42	)			installed by Boone	
Date of completion 11	Jan 6	L			
WELL LO	)G			SKETCH SHOWING LOCATION	
Formations Sandstone, shale, limestone, gravel and clay	From	То	State	Locate in reference to numbered Highways, St. Intersections, County roads	, etc.
Clar	0 Feet	-5-Ft.	ĵ.J	N.	
	5	25			
any orawel	~			Commence of the state of the st	
Clay	25	50			
Sand	50	70	·	$\mathcal{L}(oldsymbol{\mathcal{U}}^{(n)})$	,
/11 0		Q)	-		
W. B. G	10	91			
•			w.	. *	E.
			•••		_,
. 2				S,	
508				See reverse side for instructions	
Drilling Firm Rapidi	ater)		Date	12 Jan 61	
Address PUMPS & WATER	EYSTEMS			d Q E Brown	

ALBERT E. BOONE WELL DRILLING

7012 NEM 11 PK.

#### W'LL LOG AND DRILLING REPCT

ORIGINAL

#### State of Ohio DEPARTMENT OF NATURAL RESOURCES

Division of Water 1500 Dublin Road

No. 183384

			bus, Ohio		
County Montgomery	Township	Madki	7 e Section of Township		
Owner Vayton Cas	54149S	Co	Address VayTon, OH10		
Location of property. K. 1.5	er y'C	hape	2 St's Rear of plant		
CONSTRUCTION	DETAILS		BAILING OR PUMPING TEST		
	gth of scree		Pumping rate G.P.M. Duration of test hrs.  Drawdown ft. Date  Developed capacity Not puyaed.		
Depth of pump setting			Static level—depth to water /3/		
WELL LO	G		SKETCH SHOWING LOCATION		
Formations Sandstone, shale, limestone, gravel and clay	From	То	Locate in reference to numbered State Highways, St. Intersections, County roads, etc.		
Gravel-dry Gravel-Water Fine Sand Sand & gravel Clay	0 Feet 4 32 40 60	# Ft. 32 40 60 76	N.		
Drilling Firm J. M. D.	Bes X	Say	S. See reverse side for instructions  Date  8 3 5 7 7		
Address	lues C	Tues	Signed W/A. Bogs		

クヘ

#### WELL '.OG AND DRILLING REPORT

PLEASE USE PENCIL OR TYPEWRITER

State of Ohio DEPARTMENT OF NATURAL RESOURCES

**N**º 374374

DO NOT USE INK.

Division of Water 1562 W. First Avenue

County MORTGORERY		` .	Ohio 43212 Dayton
Owner The Dayton Casti			
Location of property ½ mil	e south	01 5030	tiey ave on Alser st
CONSTRUCTION	DETAILS		BAILING OR PUMPING TEST
Casing diameter 10" Leng	th of casin	, 91	Pumping Rate 150 G.P.M. Duration of test 24 hrs.
Type of screen Red Brass Leng	=	_	Drawdown 14 ft. Date 4/7/69
h 31-3.	, 		Static level-depth to water 17 ft.
Capacity of pump 150 G.P.I	И.	*******************************	Quality (clear, cloudy, taste, odor) Clear
Depth of pump setting 75			
Date of completion 4/7/	/69		Pump installed by N. U. SCOTT
WELL LO	G*		SKETCH SHOWING LOCATION
Formations Sandstone, shale, limestone, gravel and clay	From	То	Locate in reference to numbered State Highways, St. Intersections, County roads, etc.
Fill	0 Feet	8 Ft.	N.
Dry gravel	8	24	
Water sand and grave	. 24	91	
			W. STANL EY AVE E.
			W. 214NL 11 402
			William (Marie)
11,00	;		S. See reverse side for instructions
Drilling Firm Scott Well D Address 5859 Brantford Dayton Ohio	_		Date 4/7/69 Signed W. Scatt

\*If additional space is needed to complete well log, use next consecutive numbered form.

#### W"L LOG AND DRILLING REPC"T

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES

Division of Water 1500 Dublin Road

No. 183385

		Columi	ous, Ohio Daytor
County Montgomery	Township.	Madel	Section of Township
			Address Dayton, Ohio
			Rear of Plant.
CONSTRUCTION	DETAILS		BAILING OR PUMPING TEST
Casing diameter Len	gth of casin	g	Pumping rate
Type of screenteyf, Fipe Len	gth of scree	ر <u>ح</u> n	Drawdownft. Date
Type of pump	V		Developed capacity Not pumped.
Capacity of pump			Static level—depth to water 13
Depth of pump setting	ν		Pump installed by
Date of completion	<u> </u>		
WELL LO	G		SKETCH SHOWING LOCATION
Formations Sandstone, shale, limestone, gravel and clay	From	То	Locate in reference to numbered State Highways, St. Intersections, County roads, etc.
Fill Gravel dry Sandr gravel Water	0 Feet 4 30	4 Ft. 30 38'10"	W. E.
Drilling Firm A.M. Roll Address	len y 8	) ru	S.  See reverse side for instructions  Date  Signed

#### WEL' LOG AND DRILLING REPTRT

State of Ohio

NO CARBON PAPER NECESSARY-

DEPARTMENT OF NATURAL RESOURCES Division of Geological Survey

472234

SELF-TRANSCRIBING

COUNTY\_MONTGOMERY

Fountain Square Columbus, Ohio 43224 Phone (614) 466-5344

> CTION OF TOWNSHIP OR LOT NUMBER

CHILDRENS MEDICAL CENTER DAYTON, OHIO ADDRESS.

TOWNSHIP

LOCATION OF PROPERTY CH	IAPEL STREE	ET	
CONSTRUCTION DETAILS			BAILING OR PUMPING TEST (specify one by circling)
Casing diameter 12"  Type of screen WW-RB 100  Ler  Type of pump B.J. 10 MQ"L" 3 st  Capacity of pump 500 GPM  Depth of pump setting 132 '3"  Date of completion August 5. 1	ngth of screen.	20'	Test rate 500 gpm Duration of test 24 hr Drawdown 5 ft Date 8-5-77  Static level (depth to water) 21 ft. f Quality (clear, cloudy, taste, odor) Excellent  Pump installed by Moody's of Dayton, Inc.  SKETCH SHOWING LOCATION
WELL LOC	Well	# 2	
Formations: sandstone, shale, limestone, gravel, clay	From To		Locate in reference to numbered state highways, street intersections, county roads, etc.
Blacktop & eement Fill	0 ft	1 ft 5	C 1/2 N
Clay and Gravel  Dry Gravel  Gravel	5 30 50	30 50 73	
Dirty Gravel Sandy Clay	73	87 115	
Clean Gravel Big Gravel	115	145 157	W James E
Gravel Clay and Gravel	157	173 175	Jordan Strang
Cray and Graver		1/3	CHUC, HED. CENTRAL CHUCO. HED. CHUCO. HED. CHU
412			

SIGNED

DRILLING FIRM MOODY'S OF DAYTON, INC.

ADDRESS 4359 INFIRMARY RD. P.O. BOX 123

MIAMISBURG, OHIO 45342 AUGUST 17, 1977

<sup>\*</sup>If additional space is needed to complete well log, use next consecutive numbered form.

#### WEL' LOG AND DRILLING REP^RT

State of Ohio

472235

NO CARBON PAPER NECESSARY-SELF-TRANSCRIBING

12"

NONE

NONE

COUNTY

Casing diameter.

Type of screen \_

Capacity of pump

Depth of pump setting \_

Type of pump.

DEPARTMENT OF NATURAL RESOURCES Division of Geological Survey

Fountain Square Phone (614) 466-5344 Columbus, Ohio 43224 SECTION OF TOWNSHIP MONTGOMERY OR LOT NUMBER DAYTON, OHIO CHILDRENS MEDICAL CENTER **ADDRESS** CHAPEL STREET LOCATION OF PROPERTY BAILING OR PUMPING TEST CONSTRUCTION DETAILS (specify one by circling) 24 Test rate 500 Duration of test\_ Length of casing. gpm Date 8-12 & 13, 1977 38 ft. Drawdown None Red Brass Length of screen. 19 ft. Static level (depth to water) RETURN DIFFUSER WELL Quality (clear, cloudy, taste, odor)\_ NONE

Date of completion April 23, 1977  WELL LOG* RETURN DIFFUSER WE			Pump installed by <u>None</u>	
			$_{ m LL}$ Sketch showing location	
Formations: sandstone, shale, limestone, gravel, clay	From	То	Locate in reference to numbered state highways, street intersections, county roads, etc.	
Fill, clay and gravel	0 ft	12 ft	2 // N //	
Clay and gravel	12	35		
Gravel	35	73		
Clay	73	76		
			W MEY E	
	ļ		Applitad Kita Carr.	
	ļ		To Sold Sold Sold Sold Sold Sold Sold Sol	
	ļ		thought of the	
<del></del>	V. V *		Church	
1.		178	<i>&gt;</i>	
5412			<u>// 5</u>	

DRILLING FIRM MOODY'S OF DAYTON, INC. ADDRESS 4359 INFIRMARY RD., P.O. BOX 123 MIAMISBURG, OHIO 45342

<sup>\*</sup>If additional space is needed to complete well log, use next consecutive numbered form.

#### WEL' LOG AND DRILLING REP RT

ORIGINAL

NO CARBON PAPER NECESSARY-SELF-TRANSCRIBING

State of Ohio DEPARTMENT OF NATURAL RESOURCES Division of Water Fountain Square Columbus, Ohio 43224

✓

COUNTY Most gomen	TOWNSHIP	Day	SECTION	OF TOWNSHIP	
OWNER CAY OF DOY	tow		_ ADDRESS DOUT	Low, Ohio	·
LOCATION OF PROPERTY	DEWAT	tan mg	- KEOWER ST	toost Unde	2 prss
CONSTRUCTION				ING OR PUMPING TEST (specify one by circling)	Т
Casing diameter 12 inch Len	gth of casing_	251511	Test rate 700	. gpm Duration of tes	th
Type of screen Johnson Ler	igth of screen.	25	Drawdown	ft Date	8 Z
Type of pump	:ble		Static level (depth to wa	ter)6  4	
Capacity of pump 926 gp	<u>ພ</u>		Quality clear cloudy, ta	aste, odor)	
Depth of pump setting 31'711					<del>.,</del>
Date of completion 10/82			Pump installed by	unolds Supp	ly, ulnc.
WELL LOG	i <b>*</b>		SKETCH SHOWING LOCATION		
Formations: sandstone, shale, limestone, gravel, clay	From	То		te in reference to numbered street intersections, county	
f,11	0 ft	<b>8</b> ft	Well * 2	N	
SAND + Gravel	8	56		1	
ClAV+ +111	56	51			
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DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

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STATUS REPORT AND RECOMMENDATIONS ENVIRONMENTAL SITE ASSESSMENT

DAYTON THERMAL PRODUCTS DIVISION DAYTON, OHIO

ACUSTAR, INC. CHRYLSER MOTORS CORPORATION

August 16, 1991

Prepared for:

ACUSTAR, INC. 1600 Webster Street Dayton, Ohio 45404

Project 423023

JOHN MATHES & ASSOCIATES, INC.
East Park One Building
701 Rodi Road, Suite 101
Pittsburgh, Pennsylvania 15235-4559
(412) 824-0200

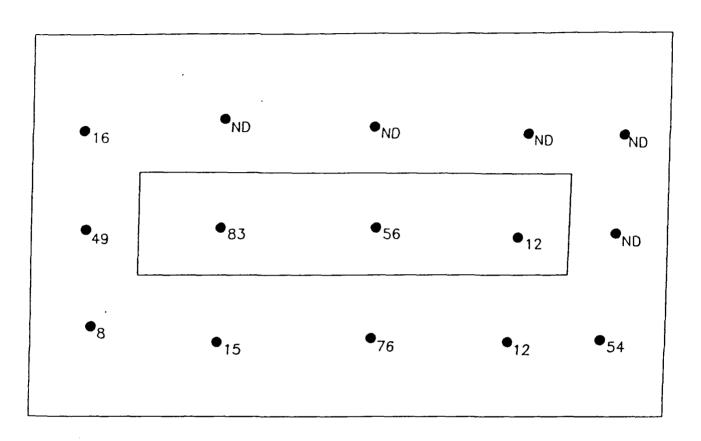
#### **BACKGROUND**

- Old Maxwell Complex demolition to make space for Building 59
- Discovery of VOC and TPH contamination in areas of:
  - Concrete Slabs
  - Sewer Lines
  - Process Pipelines
  - Process Sumps
  - Nonhazardous Waste Storage Pad
  - Oil/water Separator
  - TCA Tank
  - Flux Room
  - New Product Barrel Storage
  - Battery Storage
- Soil in Footprint of Building 59
- Soil in adjacent areas to be paved

#### REMEDIAL ACTIVITIES TO DATE

- Special Waste
  - Shipments to Pinnacle Road Landfill 166 loads (~\$25/cubic yard)
- Hazardous Waste
  - SoilF001 from 40B5 loads (\$1,200-\$1,500 per cubic yard)
  - Concrete
    Chromium leach
    Lead leach
    11 loads to date (\$300-\$500 per cubic yard)
    7 additional loads being evaluated
- On-Site Treatment of TPH and VOC Contaminated Soil
  - Building 59 Footprint
  - Adjacent areas to be paved

#### CLEAN SOIL STOCKPILE

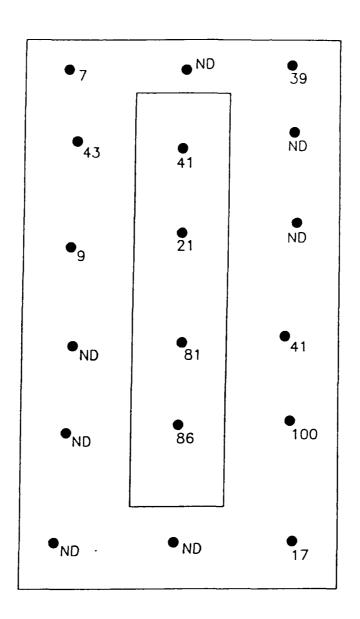




#### **EXPLANATION**

APPROXIMATE SAMPLE LOCATION WITH TOTAL VOLATILE ORGANIC COMPOUNDS (METHOD 8240) IN ug/kg

#### VOC VACUUM EXTRACTION BED

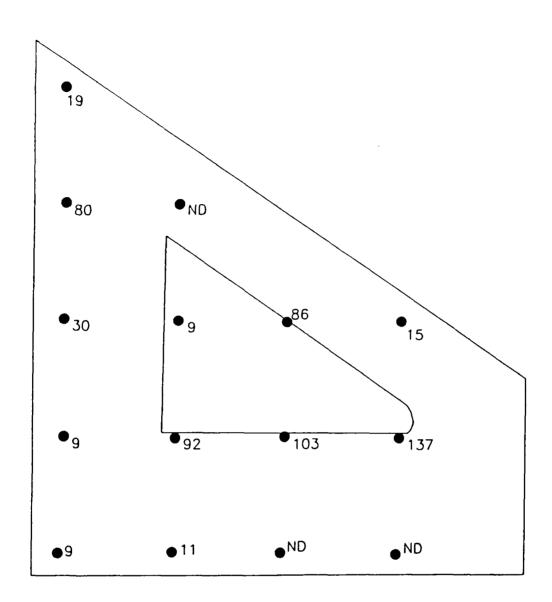




#### **EXPLANATION**

APPROXIMATE SAMPLE LOCATION WITH TOTAL VOLATILE ORGANIC COMPOUNDS (METHOD 8240) IN ug/kg

#### TPH VACUUM EXTRACTION BED

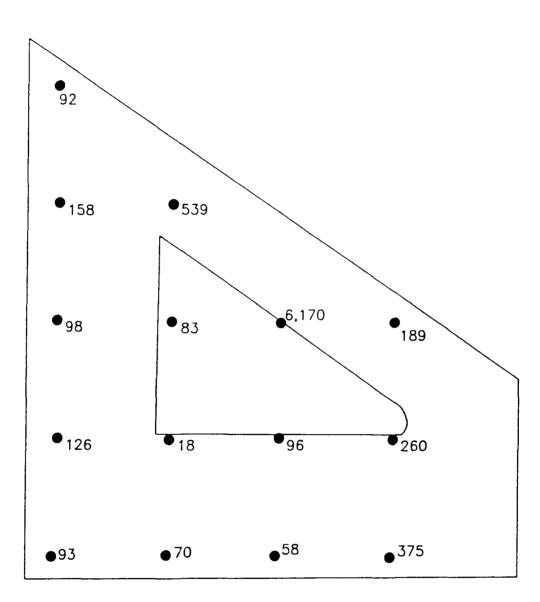




#### **EXPLANATION**

APPROXIMATE SAMPLE LOCATION WITH TOTAL VOLATILE ORGANIC COMPOUNDS (METHOD 8240) IN ug/kg

#### TPH VACUUM EXTRACTION BED





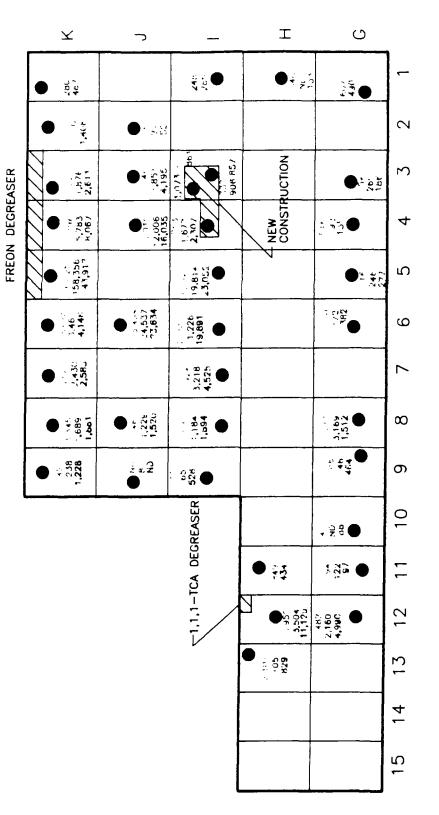
#### **EXPLANATION**

APPROXIMATE SAMPLE LOCATION WITH TOTAL PETROLEUM HYDROCARBONS (METHOD 418.1) IN mg/kg

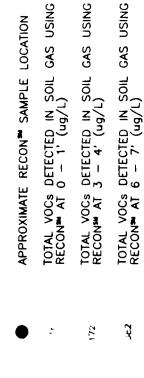
#### **EXPANDED SITE INVESTIGATION**

- RECON Buildings 40A and 40B
  - Soil Gas
- RECON Site-Wide Reconnaissance
  - Soil Gas
  - Groundwater
- Literature Review
  - Conceptual Subsurface Model
- Surrounding Properties

# RECONSM- BUILDING 40A & 40B DAYTON THERMAL PRODUCTS PLANT TOTAL VOCS IN SOIL GAS USING

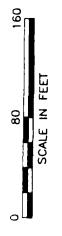


## **EXPLANATION**



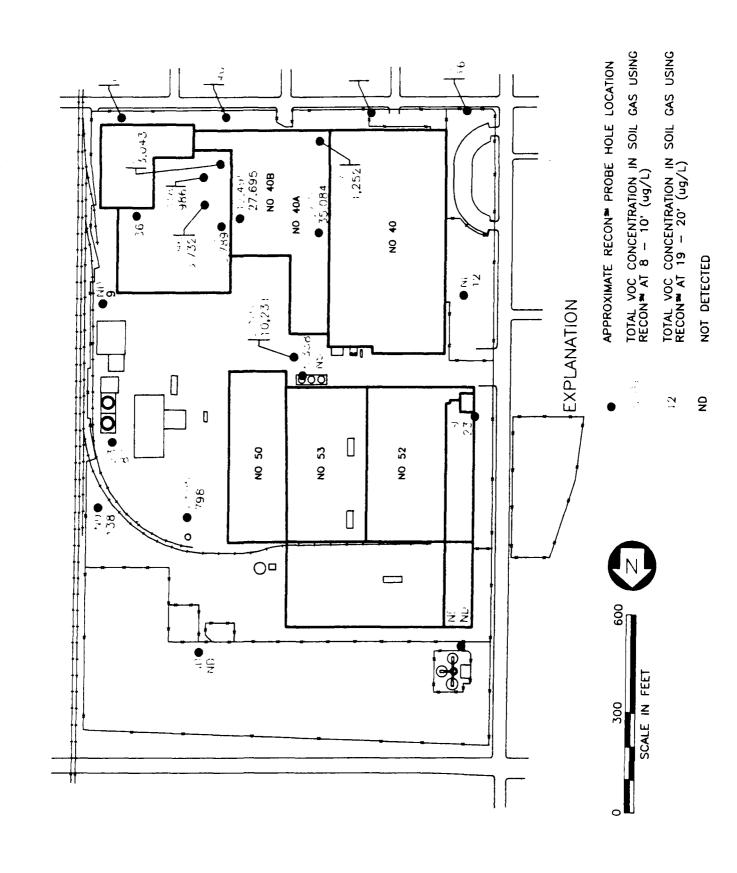
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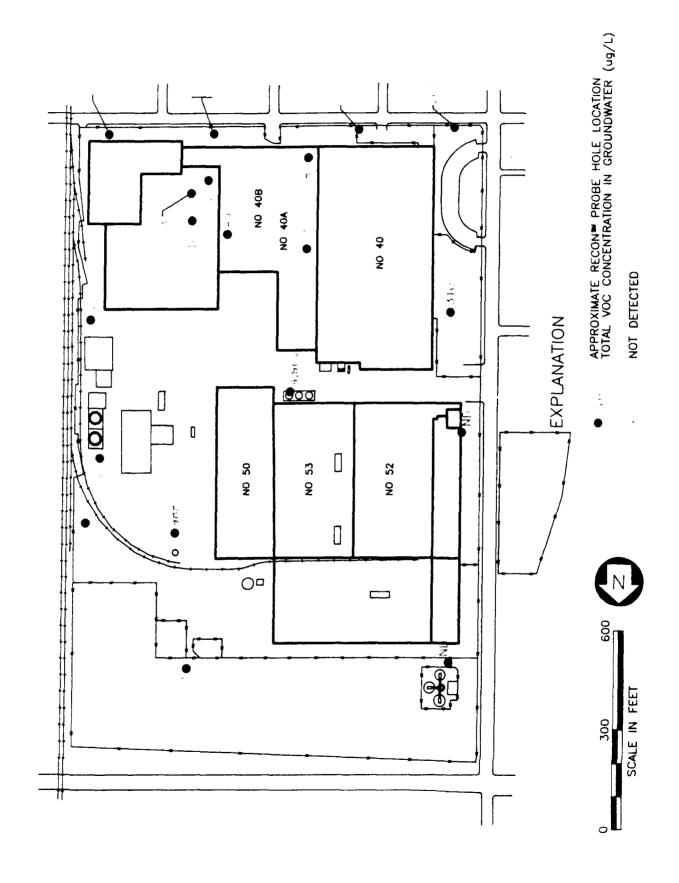




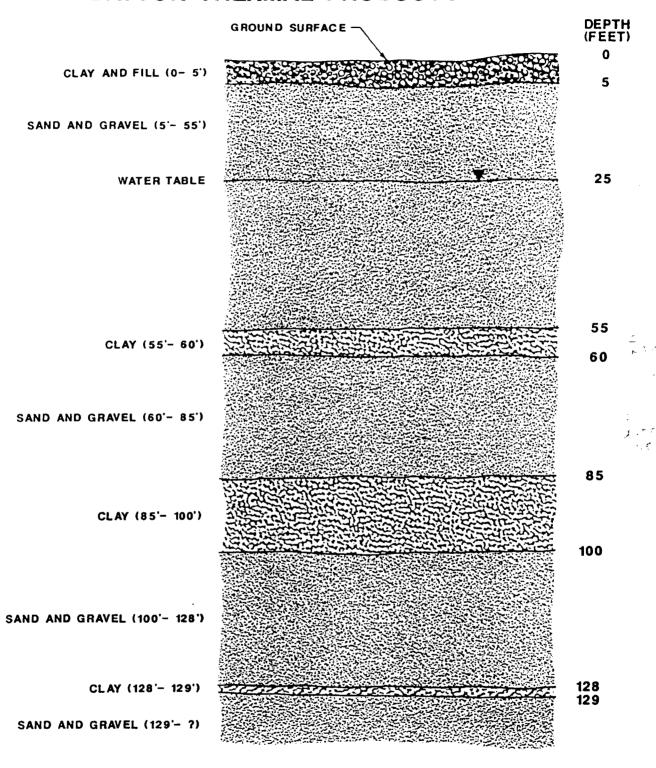
# DAYTON THERMAL PRODUCTS PLANT



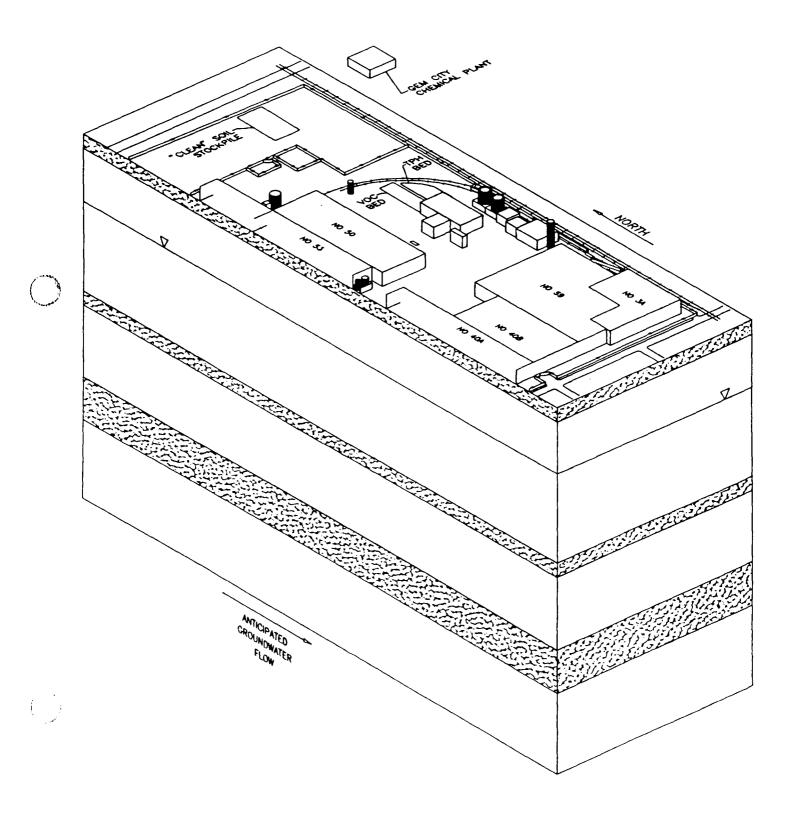
# TOTAL VOCS IN GROUNDWATER DAYTON THERMAL PRODUCTS PLANT



### CONCEPTUAL SUBSURFACE CONDITIONS DAYTON THERMAL PRODUCTS PLANT



### CONCEPTUAL SUBSURFACE CONDITIONS DAYTON SITE



#### ADDITIONAL WORK RECOMMENDED

- Prevent Identified Sources From Contaminating Aquifer Source Control
  - 1,1,1-TCA tanks south of Building 59
  - Building 40B
- Evaluate Subsurface Conditions
  - Vertical profile and lateral extent of sediments. Delineate aquifer and semi-confining layer boundaries.
  - Aquifer, vadose zone and semi-confining layer properties:
    - 1. Air flow for soil venting
    - 2. Groundwater flow in water table and first semiconfined aquifer for groundwater remediation
    - 3. Semi-confining layer properties and orientation for non-aqueous phase contaminant flow
- Evaluate Risks and Options
- Select Cost-Effective Alternative(s)

#### SOURCE CONTROL 1,1,1-TCA TANKS

#### **OPTIONS**

- 1. Tank System as a continuing source
  - Remove from service
  - Integrity Test
    - visual inspection
    - corrosion
    - improve material management
- 2. Subsurface Contamination
  - Soil
    - Excavation/removal (RCRA hazardous waste)

Assume  $100 \times 100 \times 25 \sim 9,000$  yards \$1,200/cubic yard for incineration

- ~\$11 Million
- Venting (minimize RCRA hazardous waste)
  - ~\$50,000 as part of program outlined below
- Groundwater
  - To be selected as part of site-wide evaluation

#### SOURCE CONTROL BUILDING 40B

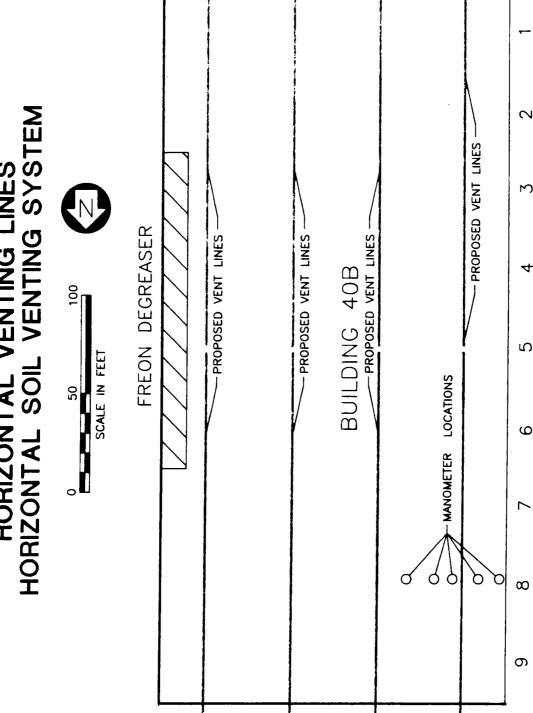
#### **OPTIONS**

- 1. Building as a Continuing Source
  - Remove from service
    - improve material management practices
    - discontinue use of solvents
    - halt production
  - Isolate from environment
    - venting system discussed below
- 2. Subsurface Contamination
  - Soil
    - 127,000 cubic yards may be affected
    - All subsurface work will generate RCRA hazardous waste (requires handling at \$1,200-1,500/cubic yard)
    - Excavation/Removal
       All RCRA hazardous waste \$152 million
    - Venting
      Minimize generation of RCRA hazardous waste \$0.7-\$1.5 million
      - a. Vertical not most cost-effective option due to site logistics
      - b. Horizontal
        - from surface infeasible logistically
        - from outside of building

Program outlined below

- Groundwater
  - To be selected as part of site-wide evaluation

# PROPOSED LOCATION FOR HORIZONTAL VENTING LINES HORIZONTAL SOIL VENTING SYSTEM



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# TYPICAL FLOOR VENTING LOCATION HORIZONTAL SOIL VENTING SYSTEM

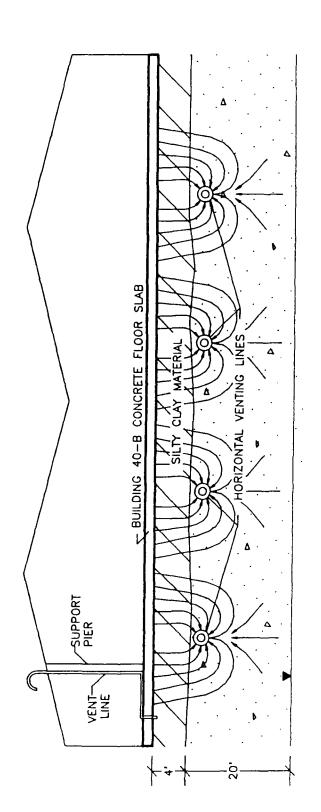




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# CROSS SECTION DIAGRAM OF PROPOSED VENTING SYSTEM

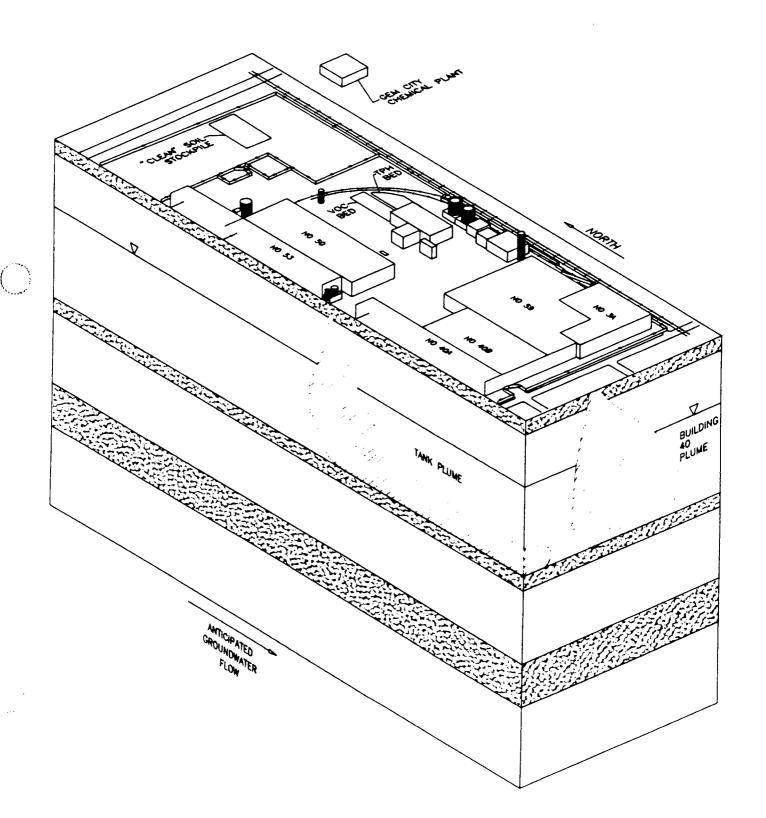


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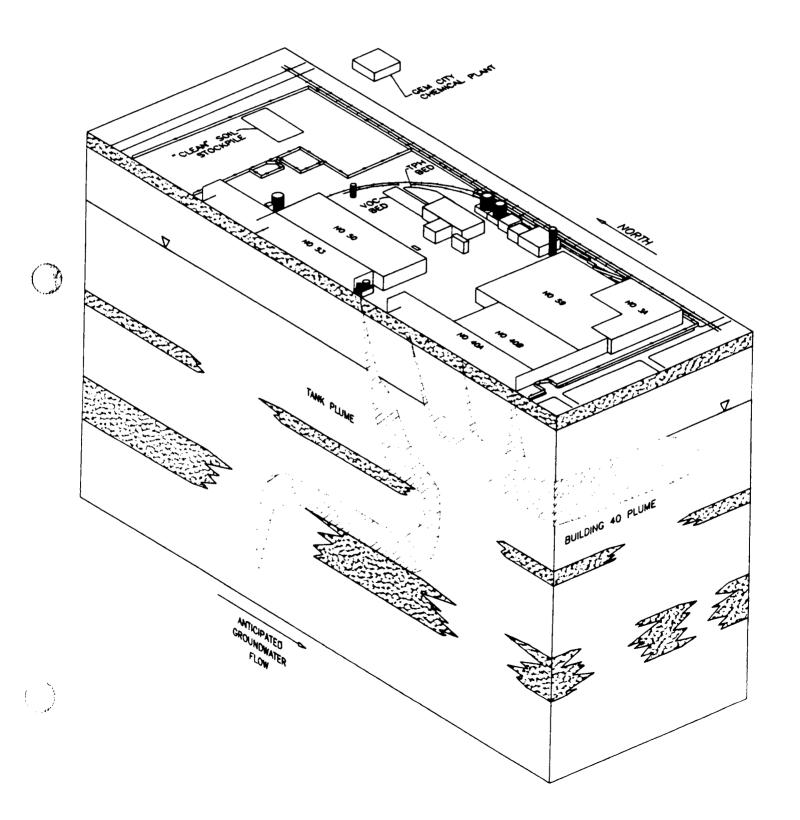
#### SUBSURFACE ASSESSMENT AND CLEANUP EVALUATION ANTICIPATED SCOPE OF WORK

- Evaluate subsurface soil condition in area of 1,1,1-TCA tanks and storage area east of Building 50
  - VOCs
  - Grain size distribution
  - Response testing (venting test)
    - to evaluate, design, and cost soil venting as a remedial alternative
- Advance deep (100 feet) boreholes to evaluate continuity of stratigraphy
  - Six boreholes through base of "confined" saturated zone
  - Evaluate data requirements
  - Install wells
- Advance shallow (55 feet) boreholes to evaluate water table and continuity of confining zone
  - Six boreholes to base of first "confining" layer
  - Evaluate data requirements
  - Install wells
- Evaluate groundwater and properties of water table and first "confined" zone
  - Flow direction
  - Water quality (VOCs plus parameters required for remediation)
  - Response testing (pumping test)
    - to select and design appropriate remedial method
- Evaluate cleanup standards
  - ARARs
  - RCRA Corrective Action Levels
  - Health-risk based levels
- Engineering evaluation
  - Soil
  - Groundwater
- Recommendations

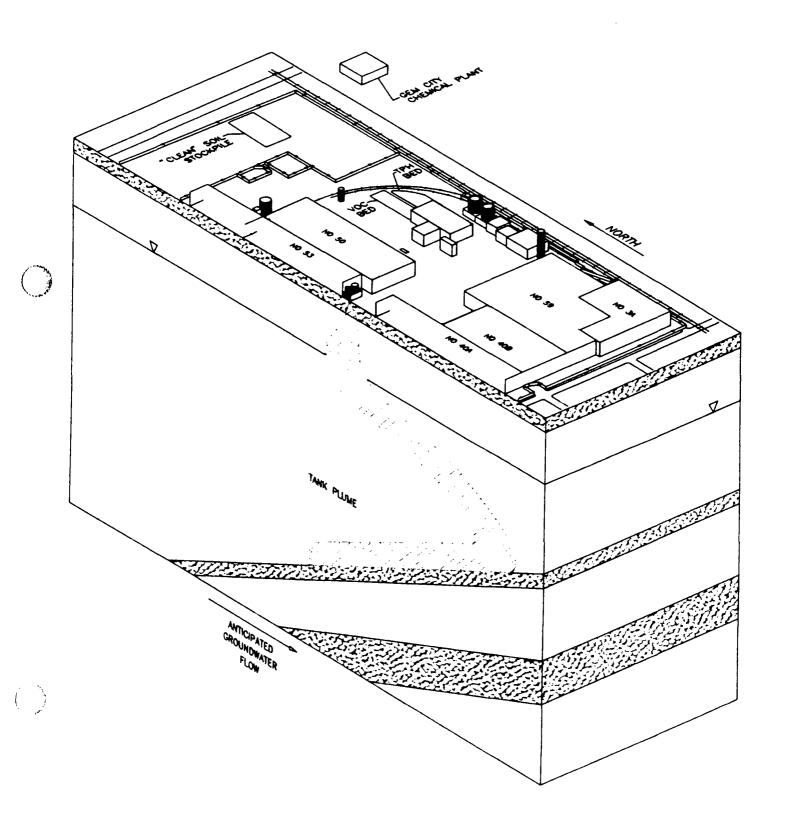
### CONCEPTUAL SUBSURFACE CONDITIONS DAYTON SITE 'HORIZONTAL' CONFINING LAYER



### CONCEPTUAL SUBSURFACE CONDITIONS DAYTON SITE "LEAKY" CONFINING LAYER



### CONCEPTUAL SUBSURFACE CONDITIONS DAYTON SITE 'TILTING' CONFINED LAYER



#### **DRIVING FORCES/CONCERNS**

- Release of hazardous substance/waste to the environment
- Affects groundwater above federally promulgated maximum contaminant levels (MCLs) (drinking water)
- Previously pumped contaminated Power House well for 90 days @ 1 million gallons per day no change in contaminant level (large volume affected)
- Potential for off-site migration
  - increases difficulty (\$) of recovery
- Minimize potential Superfund "PRP" responsibility/ participation of Dayton aquifer remediation
- Evaluate "Island of Purity" concept
  - remediate media affected by plant



# Dayton Thermal Products Division Site Activity Summary

# Prepared for:

Dayton Thermal Products Division
Acustar, Inc.
Dayton OH

# Prepared by:

Clean Tech 2700 Capitol Trail Newark DE 19711

**April 1993** 

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	1.2 Demolition of Maxwell Complex	2
	1.3 Soil Stockpile Construction	3
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	5.1 Background	10
	5.2 Results	10
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6.0	Bioremediation of TPH and Fourth Stockpile	13
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# Dayton Thermal Products Division Site Activity Summary

### 1.0 INTRODUCTION

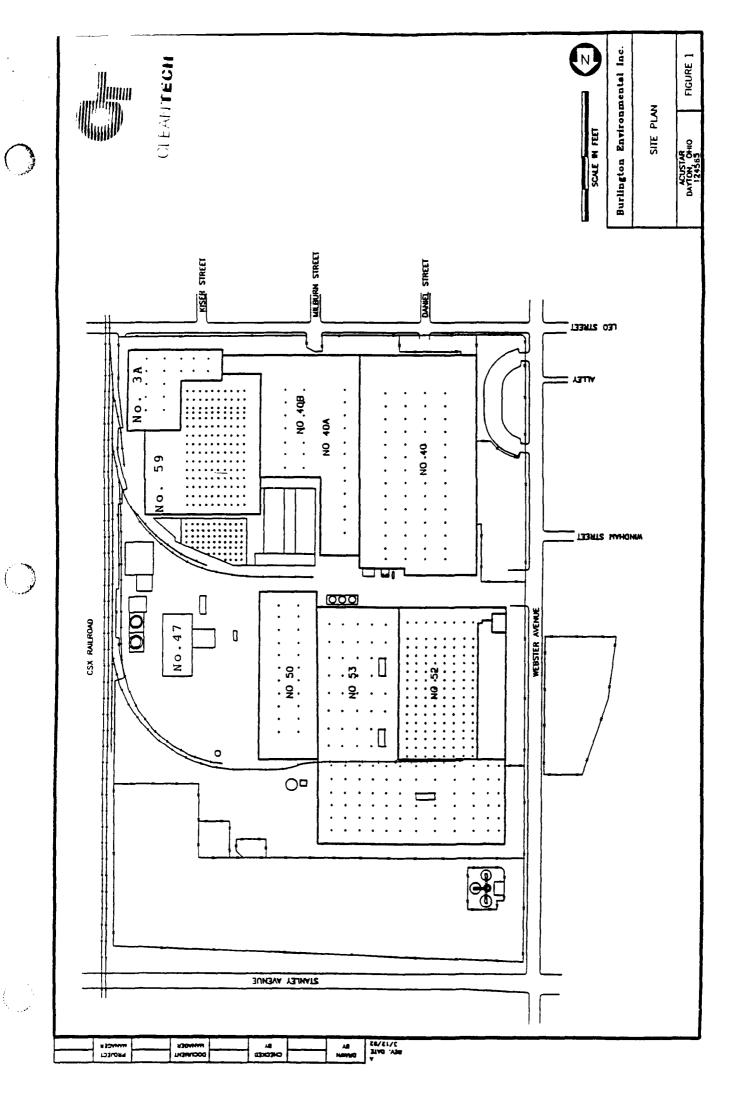
The Dayton Thermal Products Plant (the Plant) requested Clean Tech to prepare this summary report for their facility in Dayton, Ohio. This report focuses on the environmental activities which followed the discovery of VOCs and TPH in soils under the floor during demolition of the old Maxwell Complex. These buildings were replaced with a new manufacturing building. About five feet of clay soil was excavated in order to meet higher floor strength requirements for the new building. Also included are VOC remediation efforts on excavated soils to date, remediation plans to treat TPH remaining in the excavated soils, and future plans for a site-wide hydrogeological study.

This report is a compilation of information and data gathered from February 1991 through November 1992. A majority of this information was assembled by Mathes/Burlington, Columbia, Illinois.

# 1.1 Facility Description

The plant is located at 1600 Webster Street in Dayton, Ohio. The facility contains over 1.3 million square feet and is located on approximately 60 acres. A site plan is shown in Figure 1. Manufacturing began at the site in 1907 with the production of Maxwell cars. Past plant operations have included; manufacture of air conditioning equipment and furnaces, tubing production, plastic moldings and military paraphernalia. Chrysler purchased the facility in 1936. The plant primarily manufactures, assembles, and finishes heat exchangers and air conditioning components for motor vehicles.

The facility is comprised of eight manufacturing buildings, a powerhouse, wastewater treatment plant, and incidental storage buildings. Prior to its demolition, the antiquated Maxwell Complex was used as a warehouse for more than a decade. Demolition began in October 1990 and the new Building #59 and parking lot were completed about one year later, in the fall of 1991. The latter now stands where the Maxwell Complex was formerly located (See Figure 1).



Fifty-six (56) boreholes were drilled in the areas to be excavated for the column piers. These boreholes were four to six feet in depth. These samples were analyzed for total metals (chromium, lead, and zinc), volatile organic compounds (VOCs), and total petroleum hydrocarbons (TPH). A composite sample from each borehole was analyzed for these parameters.

Additional samples were taken from areas which were excavated for sewer lines, sumps, catch basins, and oil/water separators. The analytical results from soil samples taken within the foundation area indicated above detection levels for certain VOCs and TPH. The volatiles which were detected include; trichloroethene (TCE), tetrachloroethane (PCE), 1,1,1-trichloroethane (TCA), 1,1-dichloroethene (DCE), and 1,2-dichloroethene. Attempts were made to correlate the regulated compounds with a process or source. No correlations or sources of these materials could be found.

# 1.3 Soil Stockpile Construction

As a result of the soil investigation and subsequent excavation of soils, different soil stockpiles were constructed. The stockpiles were created according to the primary compound identified during analysis. Stockpiles soils were segregated to facilitate potential future remediation. The data collected as part of an environmental assessment indicated that the four stockpiles should be constructed as follows:

### • Stockpile I, the "Clean" Pile

Soil in this pile, the second largest, appeared to be relatively clean and free of visible stains. Field measurements indicated little or no VOCs. The soil volume is approximately 7,100 cubic yards. Analytical data indicated this stockpile contained less than 40 mg/kg TPH and less than 50 ug/kg VOCs. It is located several hundred feet north of Building #47.

### Stockpile 2, the "TPH" Pile

This, the largest stockpile, was visibly stained and primarily contained TPH ranging from 40 to 3,500 mg/kg. Its volume is approximately 10,800 cubic yards. The pile is located on the northeast corner of Building #47.

# Stockpile 3, the "VOC" Pile

This stockpile was visibly free of stains but contained higher levels of VOCs. Analysis indicated VOC levels up to 10,000 ug/kg. Its volume is approximately 2,800 cubic yards. It is located on the northwest corner of Building #47.

## • Stockpile 4, the Fourth Pile

Construction of this, the smallest pile, was not completed until some time after the above three stockpiles. The pile was first analyzed for VOC and TPH by Clean Tech in November 1992. It was found to contain TPH greater than 105 mg/kg. It is basically comprised of soils excavated from the new building's parking lot which was completed after the new building. Its volume is approximately 1,800 cubic yards. This pile is just east of Building #47.

# 1.2 Demolition of Maxwell Complex

Acustar completed an extensive environmental testing program during the demolition of the Maxwell Complex and prior to the construction of Building #59. The investigation included a review of existing reports and data and an evaluation of soil conditions.

Miami Geological Services, Inc., a small local firm, was initially retained to oversee construction activities and to provide for air and soil sampling during the demolition of the Maxwell complex. When the scope and complexity of environmental concerns increased during demolition, the Plant decided to hire the services of a larger company, Mathes/Burlington, to oversee the environmental concerns related to construction activities. The field activities performed were quite extensive and included the evaluation of:

- Soil conditions in and around existing structures which would be removed during construction. This included soils around such areas as sewer lines, pipelines, sumps, storage pads and storage areas, etc.;
- Soil conditions in areas to be excavated. This included the foundation areas, the column piers, and adjacent paved surfaces.;
- Soils remaining in-place in selected areas such as the clay soil used as part of the foundation material:
- Soil stockpiled on-site for disposal or remediation; and
- Slabs of concrete from the demolition of the foundation of the Maxwell complex.

The investigation of the soils from the Maxwell Complex included:

- Test boreholes in areas which were excavated for strip foundations;
- Test boreholes in areas which were excavated for column piers;
- Soil sample testing after excavation of sewer lines, sumps, catch basins, and oil/water separators.

Twenty (20) soil samples were collected from the area which was excavated for the strip foundation. These twenty soil samples were composited into five samples. These samples were analyzed for Toxicity Characteristic Leaching Procedures (TCLP) test for metals, volatiles, semi-volatiles, and polychlorinated biphenyls (PCBs).

### 2.0 REMEDIATION BY VAPOR EXTRACTION

Because of the presence of varying levels of VOCs and TPH in the footprint soils, remediation of these soils was anticipated and various methods were studied prior to excavation. It had been determined that the soils were non-hazardous. This was concluded because (1) after diligent efforts, the VOCs could not be traced to a known source, and (2) the soils were tested for characterization (TCLP analysis) and found to be non-hazardous.

Mathes proposed and the Plant agreed to install aboveground vapor extraction systems for the Clean, TPH, and VOC stockpiles. This appeared to be the most cost-effective approach to remediate the soils for VOCs. Preparations were made to accommodate the soon-to-arrive soils. Polyethylene sheeting was also placed over each pile when it was completed.

For the three stockpiles, the Clean, TPH, and VOC, a series of four inch perforated pipes were appropriately spaced and installed the entire length of the stockpiles. These pipes were covered with geotextile.

Because of the low VOC levels in the Clean stockpile, this pile was allowed to aspirate naturally without blowers

For the TPH and VOC stockpiles, however, the vent pipes were tied into a manifold system which, in turn, was connected to regenerative blowers to extract the VOCs. Sampling ports were installed after the blowers to monitor the exhaust gases. Preparations for vapor extraction of the stockpiles were completed on April 19, 1991. Before start-up, however, a pilot study was conducted to optimize operating parameters and gather information on VOC emissions for Agency submittal. On April 30, 1991, RAPCA granted approval to operate the system on a full-time basis. Throughout the vapor extraction treatment period, VOC emissions were monitored. As anticipated, VOC concentrations decreased substantially with time. When the point of diminishing returns was finally reached and negligible amounts of VOCs were detected in the exhaust stream, the stockpiles were then sampled and analyzed.

### 3.0 SOIL SAMPLING & ANALYTICAL RESULTS

# 3.1 Sampling & Analytical Procedures

During the week of July 29, 1991, after three months of vapor extraction, the stockpiles were sampled and analyzed to evaluate the effectiveness of the remediation program. U.S. EPA Guidelines were followed to determine a suitable grid pattern for sampling. The following grid intervals were selected:

Stockpile Stockpile	Sampling Grid Interval (feet)
Clean	41
TPH	39
VOC	32

The samples were collected using standard split-spoon procedures, followed by hollow-stem augering. All material was screened with an HNU meter and composited for analysis. All three stockpiles were analyzed for VOCs using Method 8240. The TPH stockpile was also analyzed using Method 418.1.

# 3.2 Clean Stockpile

A total of 15 samples were analyzed from this stockpile. Individual VOCs were all less than 100 ug/kg. The VOCs detected were trichloroethene (TCE), 1,1,1-trichloroethane (TCA), tetrachloroethene (PCE), ethyl benzene, xylene, and chloroform.

- No VOCs were detected in five of fifteen samples;
- In six other samples, only TCE, from 8.3 ug/kg to 54 ug/kg, was detected;
- In one sample, 64 ug/kg TCE and 12 ug/kg TCA were detected; and
- In the last three samples, TCE (49, 52, and 46 ug/kg, respectively), TCA (14, 9.8, and 96 ug/kg, respectively), and PCE (13, 21, and 9.8 ug/kg, respectively) were detected.

## 3.3 TPH Stockpile

A total of 15 samples were analyzed from this stockpile. The samples were analyzed for VOCs and TPH. The VOCs detected include: TCE, TCA, PCE, and chloroform. All samples, except one, were below 100 ug/kg. One sample contained 130 ug/kg of TCE. The TPH results, however, showed that the TPH stockpile still contained concentrations in excess of the Ohio EPA's limit of 105 mg/kg. Concentrations ranged from 17.5 mg/kg to 6,170 mg/kg in this pile.

- No VOCs were detected in three samples;
- Only TCE, ranging in concentration from 8.6 ug/kg to 30 ug/kg, was detected in seven samples;
- TCE (130 and 71 ug/kg, respectively) and TCA (6.9 and 8.1 ug/kg, respectively) were detected in two samples;
- TCE (86 ug/kg) and chloroform (6.1 ug/kg) were detected in one sample;
- TCE (71 ug/kg), TCA (8 ug/kg), and chloroform (8.9 ug/kg) were detected in one sample;
- TCE (67 ug/kg), PCE (16 ug/kg), and chloroform (9.4 ug/kg) were detected in one sample.

# 3.4 VOC Stockpile

18 samples were analyzed for VOCs from this stockpile. All VOCs in this pile were below 100 ug/kg. The VOCs detected included; TCE, TCA, PCE, ethyl benzene, xylenes, and chloroform.

- No VOCs were detected in seven samples;
- TCE ranging in concentration from 4.34 ug/kg to 41 ug/kg, was detected in five samples;
- PCE (9 ug/kg) was detected in one sample;

- TCE (24 ug/kg), TCA (6 ug/kg), ethylbenzene (6.2 ug/kg), xylenes (38 ug/kg), and chloroform (12 ug/kg) were detected in one sample;
- TCE (4.3 ug/kg), ethylbenzene (2 ug/kg), and xylenes (94 ug/kg) were detected in one sample;
- TCE (54 ug/kg), TCA (17 ug/kg), and PCE (10 ug/kg) were detected in one sample,
- TCE (32 ug/kg) and PCE (9 ug/kg) were detected in one sample; and
- TCA (13 ug/kg) and PCE (7.8 ug/kg) were detected in one sample.

### 4.0 EFFECTIVENESS OF VAPOR EXTRACTION

Efforts were made to calculate the percentage of VOCs removed from each pile following vapor extraction. This calculation was based on the VOC concentrations in the soils compared to emitted mass from the regenerative blowers. This was intended as a general indication of the effectiveness of the treatment.

Based on the above described calculation, it was estimated that between 83 to 100% of the VOCs were extracted from the three stockpiles. Based on the average, about 90% of all VOCs were removed

The Ohio EPA policy on "How Clean is Clean?" states that the cumulative risk posed by clean soil should not exceed  $1 \times 10^6$  excess cancer risk level. Based on the analyses of the three stockpiles, all the regulated components were below this threshold level.

Based on Clean Tech's study of the TPH and fourth stockpiles, it appears these two piles still exceed 105 mg/kg of TPH. The Plant intends to bioremediate these soils and retain them on-site. Clean Tech, therefore, also conducted a biotreatability study to determine if the two stockpiles could be biologically treated.

### 5.0 BIOTREATABILITY STUDY

# 5.1 Background

The purpose of this study was to determine if organisms indigenous to the site and cultured in the lab on specific organic compounds, were capable of degrading the TPH compounds at the Dayton facility. The lab scale study would evaluate the effectiveness of biological treatment of the TPH stockpile and the previously untested fourth stockpile.

On November 6, 1992 composite soil samples were taken from the TPH and the fourth stockpiles by Clean Tech. The first set of six samples was taken from the stockpile designated the TPH stockpile. These samples were composites which were taken at various locations on the side slopes and top of the pile.

The second set of six samples was taken from the pile designated as the fourth pile. A total of six composite samples were taken from the top and at various locations at the side slopes of this pile by Clean Tech.

## 5.2 Results

The soil samples, upon arrival at Clean Tech, were logged in accordance with standard QA/QC procedures. The following parameters were measured for each soil pile sample: pH, nitrate-nitrogen, phosphorous, humus (organic content), ammonia-nitrogen, nitrite nitrogen, and soil moisture. Analysis indicated that nitrogen was lacking in all forms in the soil samples. Analysis also indicated that the soils were lacking in organic matter and were slightly basic.

The feasibility study indicated that the lack of nutrients in the soils was one of the limiting factors for biological treatment at the Dayton site. Microbial respiration, as determined by measuring CO<sub>2</sub> evolution, confirmed that the growth of the indigenous microbial community under ambient conditions was occurring but at a very slow rate. This indicated that even though hydrocarbon degrading microbes were present, the present environmental conditions did not allow the existing microbes to function effectively.

Degradation of hydrocarbons by enhanced biological methods is dependent on a number of factors. The most important factors include:

- The existence of indigenous microbes capable of degrading the compounds of concern:
- Hydrocarbon type and concentration;
- Soil type and structure;
- Nutrient availability;
- Moisture content:
- Oxygen availability (Aerobic processes).

The first factor was analyzed for this site. Fertile soils usually contain  $10^7$  to  $10^9$  microbes per gram of dry soil of which  $10^5$  to  $10^6$  are hydrocarbon degraders (prior to the addition of hydrocarbons). After hydrocarbons have been added, hydrocarbon degraders typically increase to  $10^6$  to  $10^8$  microbes per gram of dry soil.

The composite soil sample was analyzed by standard plate count which is a direct quantitative measurement for aerobes and facultative anaerobes. The resultant count was  $4.0 \times 10^7$  microbes per gram of dry soil. This indicated that there is an indigenous microbial population at the site which has been impacted by site conditions. If environmental conditions were suitable, the plate count should have been an order of magnitude greater.

In order to approximate total TPH levels in the soil composite sample, Clean Tech utilized EPA Method 418.1. The initial soil composite contained an approximate TPH level of 113 milligrams per kilogram (mg/kg). At the end of the study, the reactor vessel which contained the appropriate nutrient levels, contained no detectable concentration of TPH. This result was compared to the live control which still contained approximately 113 milligrams per kilogram (mg/kg) of TPH. The dead control also had a similar TPH value. This conclusively showed that the bacteria had successfully degraded the contaminants of concern as evidenced by the lack of contaminants in the reactor vessel that contained the necessary nutrients.

The third factor affecting bioremediation is soil type. This affects the ability of the soil to transmit air, water, and nutrients. More permeable soils allow rapid mobility of nutrients. The soil analyzed in this study contained some silt and clay which would somewhat restrict permeability.

Nutrients and the bioavailability of nutrients is another critical factor. Nitrogen and phosphorous were the most critical nutrients lacking in the test soils. The nutrients added in the study were rapidly depleted. Another key factor which had affected nutrient availability is adsorption. Clay soils have a high retention capacity for nutrients. The initial addition of nutrients to the soils may have been tightly bound to the soil thereby allowing only minimal amounts to be available for microbial growth. Subsequent additions of nutrients to the soils showed a rapid uptake of nutrients as measured by increased CO<sub>2</sub> production.

Other factors which are important but which were not a limiting factor in this study include temperature and moisture availability. Temperature was kept stable at ambient conditions throughout the study at approximately 20°C. Moisture availability was also adequate. The initial samples had moisture contents above 10%, which is the level at which bioactivity becomes marginal.

The last critical factor in this study is oxygen availability. Oxygen availability controls the rate at which aerobic organisms can function. One liter of air contains 20% oxygen or 256 mg of oxygen. Bioactivity in unsaturated soils is much faster than in saturated soils since an adequate air supply can be provided. All samples were aerated at normal atmosphere concentrations. Enhanced biodegradation will need additional dissolved oxygen.

# 5.3 Conclusions

The study concluded that biological activity was occurring at minimal rates due to restrictive site factors. Nutrient concentrations must be maintained to sustain biological activity due to the retention of nutrients by the soils. The study did confirm that the soils on the site were amenable to bioremediation

# 6.0 BIOREMEDIATION OF THE TPH & FOURTH STOCKPILES

The biotreatability study established that the regulated compounds could be degraded to below detection limits by microorganisms. Clean Tech proposes to design and operate a land treatment unit to remediate the soil.

The general remediation concept involves moving the soil from the stockpiles and placing the soil in the treatment unit. The treatment unit will consist of 24 inch lifts of soils which will be placed on a liner. The lifts will be interspersed with four-inch PVC piping. The piping will be manifolded back to a biological reactor.



January 17, 1995

Mr. Curtis Chapman Chrysler Corporation 2301 Featherstone Road CIMS 429-02-04 Auburn Hills, MI 48326-2808

RE: Site Investigation Status
Chrysler Dayton Thermal Products
Dayton, Ohio

Dear Mr. Chapman:

Site investigation activities during the installation of soil borings and groundwater monitoring wells have generated both soil and groundwater as waste materials. A total of 10 soil borings and 15 monitoring wells were installed as per the Work Plan. These activities generated a total of 143 drums of soil cuttings. These drums are marked and staged on site. The well development activities produced several hundred gallons of groundwater which were delivered to the on site wastewater treatment plant for disposal.

The first of the two planned groundwater sampling events took place 12/13 through 12/15/94 with representatives of Clean Tech and Geotrans present on site. At that time all 15 wells were sampled for laboratory analysis. The wells were purged prior to sampling and the purged water was placed in drums and retained near each well.

As per our discussion this date, Clean Tech will proceed to deliver the purged groundwater collected during the first groundwater sampling round to Chrysler's on site wastewater treatment plant. The soil cuttings produced during the well installations will be placed on site at some suitable location near the Clean Tech soil bioremediation project currently underway.

The geophysical logging of the on site production water well will not be performed. The purpose of logging the well was to determine the depth to the clay layer separating the water table aquifer and the underlying semi-confined aquifer. This has now become unnecessary since the well installations have provided this information.



Representatives of Clean Tech plan to be on site January 24, 1995 to collect a second round of water level measurements, and to collect the second round of groundwater samples beginning February 20, 1995.

Clean Tech has prepared the following schedule for submission of our draft report for the site investigation at the referenced facility. The report will be presented in sections as noted for your review and comments. A copy of our report outline is attached. The planned submittal dates and report sections to be submitted are:

January 27, 1995

Introduction, Soil Vapor Survey, Groundwater Analytical Results (Round #1)

February 17, 1995

Groundwater Monitoring Wells, Soil Borings, Soil Sampling and Analysis, Groundwater Sampling and Analysis, Soil Analytical Results, Geology

March 31, 1995

Water Level Measurements (includes Surveying Methods), Groundwater Analytical Results (Round #1 & #2), Hydrogeology, Contaminant Distribution, Interpretations of Contaminant Distribution, Wastes Disposal Methods, Recommendations

If you have any questions, please contact me at (302) 999-0924.

Sincerely,

Steven W. Newsom, P.G.

Principal Geologist

**CLEAN TECH** 

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# Site Investigation Report of Findings Chrysler Corporation Dayton Thermal Products Division Proposed Outline

- Section 1.0 Introduction
- Section 2.0 Soil Vapor Survey
- Section 3.0 Soil Borings
- Section 4.0 Soil Sampling and Analysis
- Section 5.0 Groundwater Monitoring Wells
- Section 6.0 Groundwater Sampling and Analysis
- Section 7.0 Water Level Measurements
- Section 7.1 Method of Collection
- Section 7.2 Findings
- Section 8.0 Laboratory Results for Soil Samples
- Section 9.0 Laboratory Results for Groundwater Samples
- Section 9.1 Groundwater Sampling Round #1
- Section 9.2 Groundwater Sampling Round #2
- Section 10.0 Geology
- Section 10.1 Regional Geology
- Section 10.2 Site Geology
- Section 11.0 Hydrogeology
- Section 11.1 Regional Hydrogeology
- Section 11.2 Site Hydrogeology
- Section 11.2.1 Unconfined Aquifer
- Section 11.2.2 Upper Semi-Confined Aquifer
- Section 11.2.3 Vertical Flow Potential
- Section 12.0 Contaminant Distribution
- Section 12.1- Soil Vapor Survey Contaminant Distribution
- Section 12.1.1 Shallow Soil Vapor Samples
- Section 12.1.2 Deep Soil Vapor Samples
- Section 12.2 Soil Contaminant Distribution
- Section 12.3 Groundwater Contaminant Distribution
- Section 12.3.1 Groundwater Sampling Round #1
- Section 12.3.2 Groundwater Sampling Round #2
- Section 12.3.3 Discussion of Groundwater Contaminant Distribution
- Section 13.0 Interpretations of Contaminant Distribution Patterns
- Section 14.0 Waste Disposal Methods
- Section 15.0 Recommendations
- Section 15.1 Summary of Findings
- Section 15.3 Remedial Options

Subject

		Telephone 841-6711	December	7, 1992
ne & Department				CIMS Number
NT. W. Grice	General Counsel's Office		HP	416-19-02
W. C. Achinger	Energy & Environmental Affairs		HP	416-15-14
From-hame & Department				CIMS Number
-LDL	Manager	Acustar-		
L. L. Blair	Environmental Planning	Troy		404-02-01

# Dayton Thermal Products Environmental Update

As you requested, the following is an environmental update for the plant.

In 1990, the new Building 59 was constructed. Its foot print was within the demolished Maxwell Complex, a group of old manufacturing buildings dating back to the 1920s. In order to achieve the specified floor strength, about 21,000 cubic yards (CY) of clay-containing soil was removed. Environmental concerns dictated the soil be segregated into three separate piles. Later, a fourth and smaller pile (about 1,800 CY) was generated from soil excavated for the new parking lot.

The first three piles were vapor extracted due to the known presence of VOCs and tested. The results indicated all three piles were below EPA VOC action levels and two piles were declared "clean" but the third was stained and had TPH levels > 100 ppm.

Acustar decided to keep the excavated soil on-site and remediate, as required. In November, 1992, Clean Tech of Newark, Delaware visited the site. The purpose was to collect and test soil samples for TPH and VOC, and to perform a biotreatability study on the two piles, in question, to determine their suitability for bioremediation.

A report on the study was just completed. A copy was sent to Curtis Chapman (E&EA). This feasibility study shows (1) TPH levels in the two piles in question are > 100 ppm and must be remediated and (2) with the addition of proper nutrients, the two piles can be bioremediated.

Future plans call for combining the two TPH-containing piles for bioremediation. The other two clean piles will be placed in berms or used on-site, as required.

After the planned bioremediation is underway, plans will be initiated for a site-wide hydrogeological study because previous studies have indicated the widespread subsurface presence of regulated substances. Both the above efforts are covered under a recently approved Blue Letter.

I will keep you informed of progress at the plant.

K. J. Fouts cc: M. Teodosic

W. F. Smith L. W. Williams



# Biotreatability Study for the Acustar Plant Dayton Thermal Products Dayton, Ohio

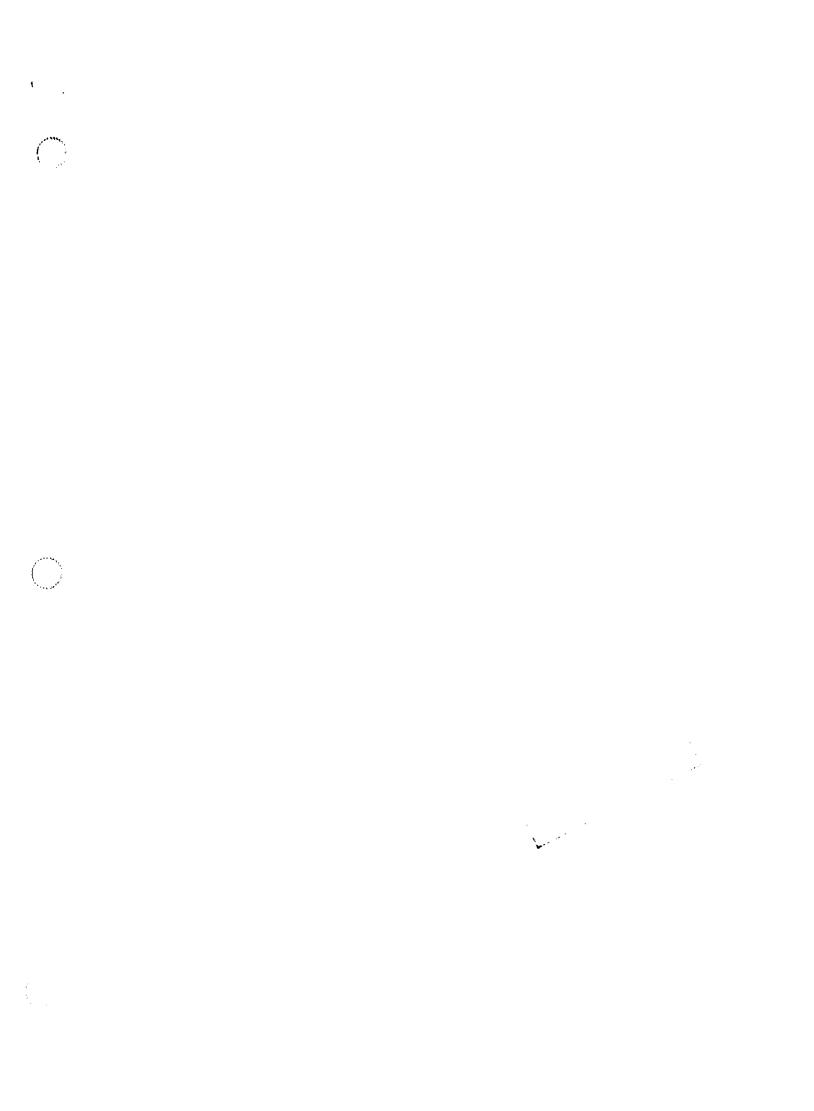
November 1992

# Prepared for:

Acustar Inc. - A Chrysler Company

# Prepared by:

Clean Tech Suite 202 225 Corporate Blvd. Newark, DE 19702 (302) 368-7961



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### 1.0 INTRODUCTION

Clean Tech routinely employs a two (2) level approach to determine the feasibility of enhanced biodegradation in the remediation of contaminated soils and groundwater. There are two (2) major criteria which must be met in order to consider biological remediation of the site. The criteria are:

- There must exist within the study site, homogeneous or heterogeneous populations of bacteria capable of using the contaminants of concern as a growth substrate; and
- Alterations of the physical and/or chemical environment must be demonstrated to result in the enhancement of microbial community activity.

Failure to meet either of these two criteria indicates that biological approaches to remediation of the site will be difficult to implement. In addition, it must also be noted that meeting the above criteria does not necessarily confirm that bioremediation is the best possible treatment option. Feasibility studies must be followed by pilot studies in the field and then with field monitoring during the remediation process.

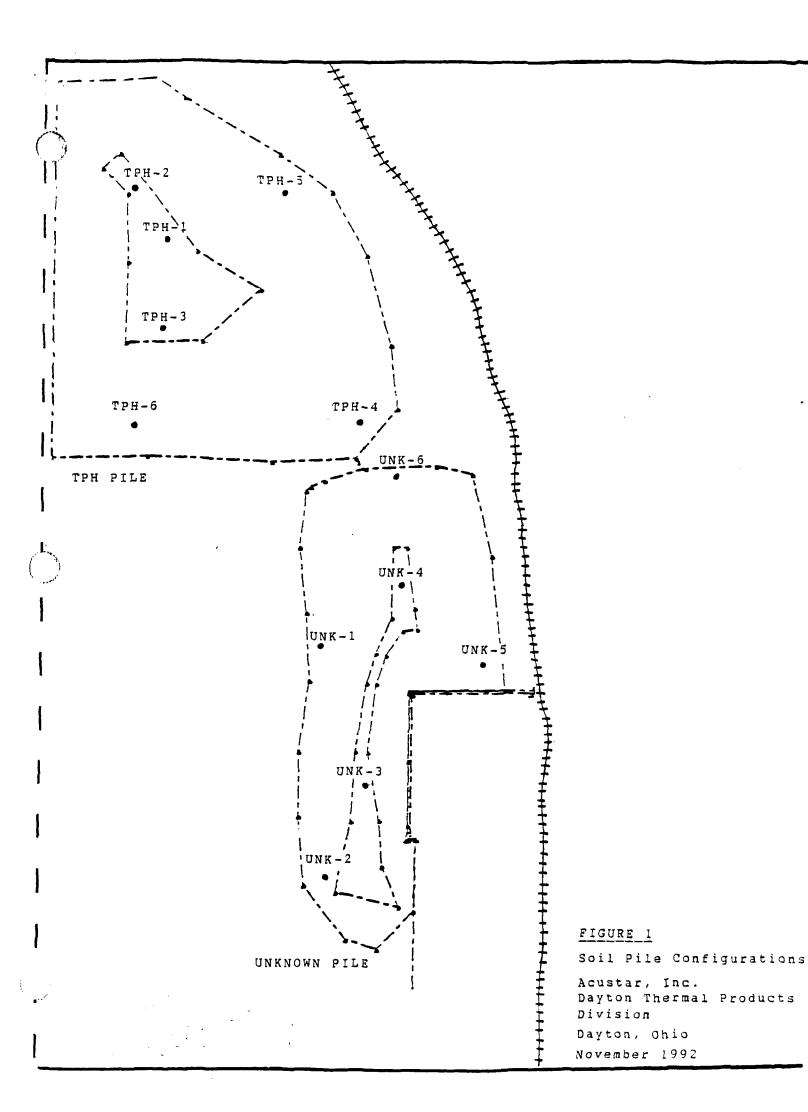
The purpose of this study was to determine if organisms indigenous to the site and cultured in the lab on specific organic compounds, are capable of degrading the contaminants of concern.

### 1.1 Background

The Acustar Plant is located at 1600 Webster Street in Dayton, Ohio. The soil piles from which samples were obtained are delineated in Figure 1.

On November 6, 1992 several composite soil samples were taken from the two soil piles contained on-site. The first set of six (6) samples were taken from the pile designated the "Total Petroleum Hydrocarbons (TPH) Pile". These samples were composites which were taken at the top of the pile and at various locations on the side slopes of the pile.

The second set of six (6) samples were taken from the pile designated as the "Unknown Pile". A total of six (6) composite samples were taken from the top and at various locations at the side slopes of this pile.



### 1.2 Field Sampling

Composite samples were collected from several locations as discussed in the previous sections from the two soil piles. A total of twelve (12) soil samples were taken at the Dayton plant. The following is a brief description of each sample location and its characteristics:

### TPH Pile

- Sample #1 (TPH-1) was taken at the top of the TPH pile. This sample was composited between 4 and 5 feet. The soil was silt/clay and contained fill material. There was no petroleum hydrocarbon odor present.
- Sample #2 (TPH-2) was taken at the top of the TPH pile. This sample was composited between 3 and 4 feet. The soil was silt/clay and contained fill material.
- Sample #3 (TPH-3) was taken at the top of the TPH pile. The sample was composited between 4 and 5 feet. There was a slight petroleum hydrocarbon odor present. The soil from this boring was silt/clay and contained fill material.
- Sample #4 (TPH-4) was taken from the side of the TPH pile, adjacent to the railroad tracks. This sample was composited between 3 and 4 feet. The soil in this boring was a moist silt/clay mixture. No petroleum hydrocarbon odor was present.
- Sample #5 (TPH-5) was taken from the side of the TPH pile, approximately 300 feet from Sample #4. Initially there was a petroleum hydrocarbon odor present. The sample was composited between 4 and 5 feet. The soil was a silt/clay mixture.
- Sample #6 (TPH-6) was taken from the side of the TPH pile, near the vacuum extraction pumps. The sample was composited between 3 and 4 feet. There was no petroleum hydrocarbon odor present. The soil was a silt/clay mixture.

### Unknown Pile

**Sample #1** (UNK-1) was taken from the side of the unknown pile, near the storage building. The sample was composited between 3 and 4 feet. There were no odors present. The soil consisted of a silt/fill mixture.

- Sample #2 (UNK-2) was taken at the rear of the pile. There was a strong petroleum hydrocarbon odor present. The soil from this boring consisted of a silt/sand mixture.
- Sample #3 (UNK-3) was taken at the top of the pile, near the waste water treatment plant. There was no petroleum hydrocarbon odor present. The soil was silt/sand and contained fill material.
- Sample #4 (UNK-4) was taken at the highest point of the pile. The soil was a silt/clay mixture. The soil was composited between 3 and 4 feet. No petroleum hydrocarbon odor was present.
- Sample #5 (UNK-5) was taken from the side of the pile, near the railroad tracks. The soil was silt/sand and contained fill material. No petroleum hydrocarbon odor was detected. The sample was composited between 4 and 5 feet.
- Sample #6 (UNK-6) was taken from the front of the pile, across from the TPH pile.

  The sample was composited between 4 and 5 feet. The soil was a silt/clay mixture.

  There was no petroleum hydrocarbon odor present.

### 2.0 STUDY PROCEDURES

The soil samples, upon arrival at **Clean Tech**, were logged in accordance with standard QA/QC procedures. The following parameters were measured for each soil sample: pH, nitrate-nitrogen, phosphorous, humus (organic content), ammonia-nitrogen, nitrite-nitrogen and soil moisture. The samples were then refrigerated at 4°C. The results of the soil samples which were analyzed are shown in Table 1.

TABLE 1
SOIL CHEMICAL CHARACTERISTICS - INITIAL SAMPLES - ACUSTAR

Sample No.	<u>pH</u>	<u>Nitrate</u>	<b>Phosphorous</b>	Ammonia <u>Nitrogen</u>	<u>Nitrite</u>	Organic Content	Moisture %
TPH I	8.2	<5 ppm	100 ppm	ND	ND	ND	19.65
TPH 2	8.1	<5 ppm	75 ppm	ND	ND	ND	17.87
TPH 3	8.2	<5 ppm	100 ppm	ND	ND	ND	20.2
TPH 4	8.5	<5 ppm	75 ppm	ND	ND	ND	9.8
TPH 5	8.4	<5 ppm	100 ppm	ND	ND	ND	2.11
ТРН 6	8.1	<5 ppm	100 ppm	ND	ND	ND	7.34
Unknown 1	8.3	<5 ppm	75 ppm	ND	ND	ND	7.38
Unknown 2	8.2	10 ppm	100 ppm	ND	ND	ND	6.01
Unknown 3	8.6	<5 ppm	75 ppm	ND	ND	ND	8.24
Unknown 4	8.3	<5 ppm	75 ppm	ND	ND	ND	9.75
Unknown 5	8.4	<5 ppm	100 ppm	ND	ND	ND	8.47
Unknown 6	8.2	<5 ppm	75 ppm	ND	ND	ND	6.43
TPH Average*	8.25	<5 ppm	91.67 ppm	ND	ND	ND	12.8
UNK Average*	8.3	<5 ppm	83.3 ppm	ND	ND	ND	7.7
Composite*	8.2	<5 ppm	75 ppm	ND	ND	ND	11.54

#### Note

Average - The arithmetic average of the samples taken from the Dayton Plant.

Composite - The chemical characteristics of the sample used for the biotreatability study which was a composite from each of the twelve samples.

ND = Not Detected (<1 ppm)

To initiate the study, a total of 1,200 grams were taken from the twelve soil samples to create a composite sample for the treatability study. Fifty (50) grams of this composite sample were analyzed for initial TPH content (see Table 2).

TABLE 2
BIOMETER FLASK COMPOSITIONS

<b>Sample</b>	TPH (ppm)	<u>MDL</u>
TPH 1	ND	5 ppm
TPH 2	283.5	
TPH 3	ND	5 ppm
TPH 4	170.1	
TPH 5	113.4	
TPH 6	56.7	
Unknown 1	113.4	
Unknown 2	170.1	
Unknown 3	ND	5 ppm
Unknown 4	113.4	
Unknown 5	170.1	
Unknown 6	170.1	
Average	113.4	
Composite	113.4	

Next, approximately fifty (50) grams of the composite sample were placed into each reactor vessel. The reactor vessels were allowed to stabilize and become acclimated for a period of two (2) days before their physical and chemical environments were altered. This permitted the determination of background respiration rates for each reactor vessel or what is known as the "lag phase" of bacterial growth.

Before the amendments were added, respiration rates during the lag phase were measured to ensure that the flasks which were amended were below or equal to the respiration rates measured in the two (2) control flasks. A total of five treatment variations were completed for the study. The reactor vessels were amended in the following manner:

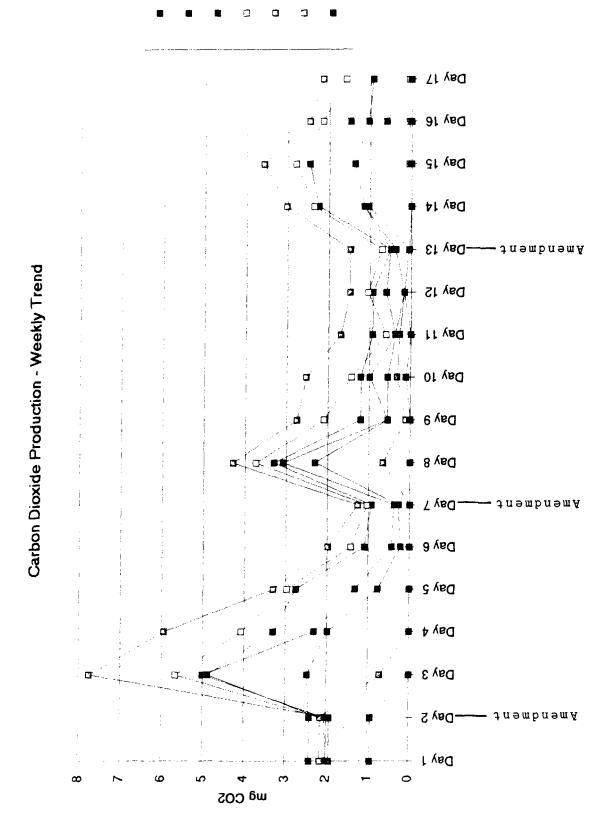
# TABLE 3 BIOMETER FLASK COMPOSITIONS

Reactor	Nutrient Percentages
<u>Vessel</u>	(Nitrogen: Phosphorous)
1	2%
2	4%
3	5%
4	6%
5	8%
6	No amendments (Live Control)
7	No amendments (Sodium Azide-Killed Control)

(Note: Nutrients: N:P = 10:15 ratio)

Reactor vessels 6 and 7 served as controls. Vessel 6 contained a composite sample of background soils which were not chemically treated. This vessel provided background respiration rates for indigenous bacteria whose environment was not amended. Vessel 7 contained a composite soil sample in which the microbes present were destroyed chemically with sodium azide (1% v/w final concentration). All reactor vessels were monitored daily for CO<sub>2</sub> production levels.

The treatability study was conducted over a seventeen day (24 hour intervals) period. Additional nutrients were added in 5 mL aliquots on days seven and thirteen of the study. Additional nutritional amendments were added on days seven and thirteen because respiration rates began to decrease at that time. In addition, it was believed that the nutrients may have adsorbed onto the soil and were not available for bacterial growth. It was anticipated that adsorption might dominate the response during the first half of the study before nutrients reached equilibrium since the soils were low in nutrients. The addition of the second aliquots of nutrients was necessary in order to determine if additional microbial activity could be stimulated with the addition of nutritional supplements (see Figure 2). All other study conditions remained unaltered.



Flask 5

Flask 4

Flask 2

Flask 1

Flask 3

Flask 6

Flask 7

### 3.0 GENERAL DISCUSSION

Bench scale studies are conducted to gather baseline information on such process limiting factors as: oxygen, moisture requirements, and the need for nutritional supplements. In this section we will further discuss these factors.

### 3.1 Nutrient Requirements

Microorganisms require the nutrients nitrogen and phosphorous to grow as well as other micronutrients. However, these materials are either available in insufficient quantities or are completely lacking in the environment. Therefore, it often becomes necessary to add supplemental nitrogen and phosphorous to the environment to enhance biodegradation.

The key to accelerating the natural degradation process is to maintain a sufficiently high threshold concentration level of the nutrients nitrogen and phosphorous. Sufficient amounts of nitrogen and phosphorous must be available to balance the available carbon. The available carbon for this site is the hydrocarbon contaminant. The threshold concentration level is a function of several factors. Two of the most significant factors are the degree of microbial utilization, and the amount of adsorption of the nutrients onto the soil.

The ideal metabolic ratio of Carbon to Nitrogen is 10:1 and Carbon to Phosphorous, 20:1. For the majority of hydrocarbons, it can be assumed that all of the contaminant becomes a carbon source for the microbes. One can then estimate the amount of nitrogen and phosphorous required for remediation. However, soil retention of nutrients is a key factor which must also be assessed. Retention of nutrients can be quite high, ranging from 10's to 100's of ppm. It is this retention factor that is often the deciding factor of the nutritional needs of the microbes which are necessary for bioremediation.

At the Acustar site, nitrogen was lacking in most of the soil samples. The tests also indicated that there was minimal humus or organic matter present. Organic content aids in supplying nutrients (nitrogen and phosphorous) and increases the nutrient retention capacity of the soil. This lack of organic matter may explain why there was a minimal amount of nitrogen in the initial samples (see Table 1).

### 3.2 O, Requirements

In general, the aerobic biodegradation process is a more efficient and rapid metabolic pathway than the anaerobic process. With oxygen, however, the supply/demand situation is quite different from that of nutrients. Considerably more oxygen than nitrogen or phosphorous is required for biodegradation since each kilogram of hydrocarbon that is metabolized requires approximately 3.4 kilograms of oxygen to convert it to carbon dioxide and water.

Reaction: 
$$(CH_2) + 1.5 O_2 \rightarrow CO_2 + H_2O$$
  
Weights: 14 kg 48 kg 55 kg 18 kg

In unsaturated or shallow soils, the oxygen supply can be severely limited within inches of the surface. This problem is readily corrected by tilling the soil. Tilling the soil provides the oxygen essential for enhanced bioremediation.

In saturated or deep soils, supplying oxygen to the microorganisms is far more difficult. An effective way of supplying oxygen to a saturated or deep system is to use a chemical source, such as hydrogen peroxide.

An advantage to using hydrogen peroxide as an oxygen source is that it readily dissolves in water. However, hydrogen peroxide is also a biocide. Thus, it must be added at levels that are not toxic to microbes but which are still capable of maintaining a high oxygen content.

At the Acustar Plant, a significant percentage of the soil piles were fill, consisting of clay and silt. This fill has been compacted, thus allowing little oxygen to diffuse beneath the surface of the soil. Biological activity has been severely limited because of this and the treatment system will need to be designed to increase oxygen to the soils.

### 3.3 Moisture

Moisture is very important to the success of in-situ bioremediation. In general, there are two (2) extremes which must be avoided. Soil moisture conditions should be maintained between 15 and 25% and pooling and/or flooding of water should be avoided (standing water causes denitrification). Extremely dry conditions (less than 10%) should also be avoided.

The soils taken from the site have soil moistures between 2.11% and 20.2%. These conditions must be accommodated in the design.

### 3.4 Soil pH

Soil pH should be kept in the neutral to alkaline range. The aerobic breakdown of organic molecules sometimes results in the accumulation of organic acid intermediates which reduces the pH and may subsequently inhibit biological activity. This effect can easily be corrected through the addition of chemicals to adjust the pH to be more alkaline with additives such as lime.

The soils found at Dayton are slightly alkaline. However, the bacterial reduction of contaminants will reduce the pH. All reactor vessels were adjusted to a neutral pH of 7 for the duration of the study.

### 3.5 Nitrogen

Reduction of contaminants may occur with the use of nitrate (NO<sub>3</sub>) as a terminal electron acceptor (denitrification). This involves the reduction of NO<sub>3</sub> to N<sub>2</sub>. This reduction occurs in the following sequence: NO<sub>3</sub><sup>-</sup>  $\rightarrow$  NO<sub>2</sub><sup>-</sup>  $\rightarrow$  NO<sub>2</sub>. During aerobic denitrification, NO<sub>3</sub> serves as the terminal electron acceptor so that oxygen is available for reduction of the organic contaminant.

The enzymes necessary to complete denitrification are only formed under anaerobic conditions or conditions of low oxygen tension. In most cases nitrate is required as the inducer. Also, the activity of the enzymes involved in nitrate reduction to  $N_2$  are strongly inhibited by  $O_2$ . Thus, denitrification can only take place when  $O_2$  is absent or only available in insignificant quantities.

If denitrification is to occur, there must be significant quantities of nitrogen available for the bacteria to grow. It becomes extremely important to develop a high organic content in the soil. Unlike most nutrients, nitrate migrates with percolating water, making it difficult to provide adequate storage quantities in the soil. Nitrogen, however, is fixed in the soil in a stable form. Denitrification is not the preferred biological activity at the Acustar site.

#### 4.0 STUDY DISCUSSION

# 4.1 Soil Chemical Characteristics

The study results were reviewed to determine if the two criteria were met in order for bioremediation to be effective at the site. The first criteria was to determine if there was an indigenous population of bacteria capable of using the contaminants of concern as a growth substitute. The second criteria that must be met is that the changes to the environment must result in an increase in microbial growth as measured by carbon dioxide production levels.

The soils were analyzed for pH, nitrogen content, organic matter, moisture and phosphorous. The chemical characteristics of the samples before physical/chemical alterations are contained in Table 1. The results indicate that nitrogen was lacking in all forms in the soil samples. One possible explanation for the lack of nitrogen is that the soils were depleted of nutrients due to microbial activity which is occurring at the site although at minimal levels. Over time this activity results in the depletion of nutrients in the soil.

The soils were also found lacking in organic matter. The organic content of soils is important for bioremediation to be effective for several reasons. Organic matter aids in moisture retention, it supplies various nutrients and it increases the nutrient retention capacity of the soil. The lack of organic matter in these soils may partially explain the lack of nutrients in the soil samples. Organic matter also enhances soil aeration, making the soils aerobic instead of anaerobic. An average soil contains 3-5% organic matter. All the samples analyzed contained no detectable amounts of organic matter.

The soils in the initial composite were also slightly basic. As the microbes degrade contaminants of concern, the pH of the soils is reduced. At the conclusion of this treatability study, through nutrient addition, nitrate, nitrite, phosphorous, and ammonia levels had increased slightly and pH had been chemically adjusted as shown in Table 4.

TABLE 4 - SOIL CHEMICAL CHARACTERISTICS FINAL SAMPLES

				Ammonia	
	Soil pH	<u>Nitrate</u>	<b>Phosphorous</b>	Nitrogen	<u>Nitrite</u>
Reactor Vessel 1	7.8	50 ppm	100 ppm	10	ND
Reactor Vessel 2	7.6	50 ppm	100 ppm	10	ND
Reactor Vessel 3	7.3	30 ppm	50 ppm	40	ND
Reactor Vessel 4	7.6	20 ppm	37.5ppm	100	ND
Reactor Vessel 5	7.4	ND	12.5 ppm	100	ND
Reactor Vessel 6	7.9	<5 ppm	75 ppm	ND	ND
Reactor Vessel 7	7.9	<5 ppm	75 ppm	ND	ND

ND = Not Detected (<1ppm)

## 4.2 Treatability Study

A review of the study on a daily basis is necessary in order to understand what factors may be limiting bioremediation.

On day one, the samples were allowed to stabilize after a composite soil sample had been made from the twelve discrete samples. An aliquot of the composite sample was then analyzed for soil chemical characteristics. This composite sample initially contained negligible amounts of nitrate and no ammonia or nitrite as previously discussed. The composite sample also contained approximately 75 ppm of phosphorous. The organic content of the composite sample was less than 1% and the sample had a moisture content of 11.54%.

On day two of the study, the nutrients were added to the reactor vessels as discussed.  $CO_2$  production levels were measured for each reactor vessel. The two control vessels showed minimal  $CO_2$  production, as expected. Reactor vessels 1 through 5, showed similar rates of  $CO_2$  production. The live control (Reactor Vessel 7) did not receive any amendments, therefore it provided the baseline or background production rate for carbon dioxide levels.

On day three, 24 hours after the initial addition of nutrients, the  $CO_2$  level began to increase. This increase in  $CO_2$  level was due to the addition of nutrients and aeration by mixing the soils in the reactor vessels. All vessels including the controls were agitated on a mechanical mixer for ten minutes. Reactor vessels 1 through 5 showed production

levels greater than both the live control (Reactor Vessel 6) and the dead control (Reactor Vessel 7), as expected.

On day four, the carbon dioxide levels were again measured in each reactor vessel.  $CO_2$  production levels had slightly decreased from the previous day. This was expected since the samples were not mixed or aerated as they had been on day three. The  $CO_2$  production levels showed that reactor vessels 4 and 5 which contained the highest nutrient levels, yielded the highest  $CO_2$  concentrations. All reactor vessels showed  $CO_2$  production levels greater than the live control, which indicates that biological activity is occurring in all flasks because of physical and chemical amendments to the soils. The killed control showed no discernible  $CO_2$  production rate.

On days five, six, and seven, CO<sub>2</sub> production levels continued to fall. Reactor vessels 1 through 5 did register CO<sub>2</sub> levels greater than the live control, which indicates that metabolic activity was occurring, although at lower levels than before. After the CO<sub>2</sub> readings were taken on day seven, additional nutrients were added to the reactor vessels to determine if there would be a concomitant increase in metabolic activity. Additional nutrients were also added since it was believed that there may have been some adsorption of the soils of the initial nutrients. To overcome the adsorption effect, additional nutrients would be necessary.

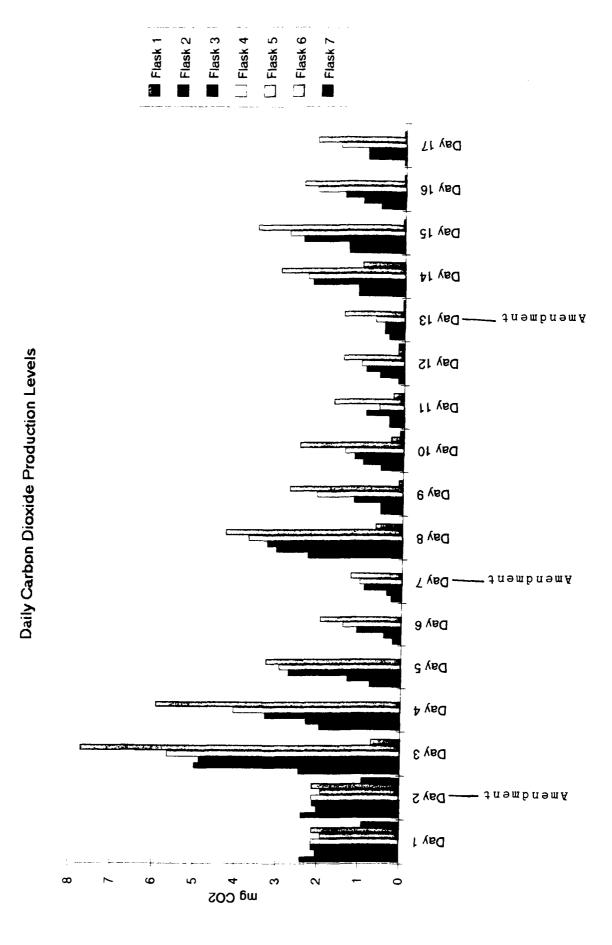
On day eight, there was an increase in metabolic activity, as evidenced by increased CO<sub>2</sub> rates. The live control also showed slightly elevated CO<sub>2</sub> levels because of the aeration and mixing, as expected.

On day nine the CO<sub>2</sub> production levels again began to decrease. Reactor vessels 4 and 5, which contained the highest concentrations of nutrients, yielded the greatest CO<sub>2</sub> production. All reactor vessels again showed CO<sub>2</sub> production levels higher than that of the live control. The dead control performed as expected with no CO<sub>2</sub> production.

On days ten, eleven, twelve, and thirteen CO<sub>2</sub> production levels continued to fall. Reactor vessels I through 5 did register CO<sub>2</sub> levels greater than the live control, which indicates that metabolic activity was occurring, although at lower levels than before. After the CO<sub>2</sub> readings were taken on day thirteen, additional nutrients were added to the reactor vessels to determine if there would be a simultaneous increase in metabolic activity.

On days fourteen and fifteen there was an increase in metabolic activity, however, the response was not as dramatic as earlier amendments. This is due in part to the build up of metabolic wastes in the small, controlled environment within the reactor vessel.

On days sixteen and seventeen, the CO<sub>2</sub> production levels began to decrease. Reactor vessels 1 through 5 did register CO<sub>2</sub> levels greater than the live control which indicated that metabolic activity was occurring, although at lower levels than before. Reactor vessel 5, which contained 8% nutrients, achieved the highest sustained CO<sub>2</sub> production levels, indicating that lack of nutrients is a major factor presently inhibiting biodegradation (see Figure 3). Table 4 shows the final results of the chemical characteristics of the soil for each reactor vessel. The final chemical results indicate that the bacteria were nitrogen starved in all forms. The pH had been adjusted to optimal levels for maximum bacterial growth.



#### 5.0 COLD STUDY

## 5.1 Introduction

In addition to the soil biotreatability study of the soils at ambient temperature at the Acustar Plant, Clean Tech also performed a biotreatability study on the soil at 4°C.

## 5.2 Study Background

The study was conducted using three (3) biometer vessels labeled A, B and C. Reactor vessel A was amended on the second day with an 8% mixture of nutrients (N:P = 10:15). Reactor vessel B was not amended and served as a live control. This vessel provided background respiration rates for indigenous microbes whose environment were not amended. Reactor vessel C contained a composite sample in which the microbes present were destroyed chemically with sodium azide (1% v/w final concentration). All three reactor vessels were monitored for daily  $CO_2$  production levels.

**TABLE 5 - BIOMETER FLASK COMPOSITIONS** 

Reactor	Nutrient Percentages			
Vessel	(Nitrogen: Phosphorous)			
A	8%			
В	No amendments (Live control)			
C	No amendments (Sodium Azide-killed control)			
(Nutrients	N:P = 10:15  ratio			

This portion of the treatability study was conducted over a ten day (24 hour intervals) period. Nutrients were added in 5 mL aliquots on day 2. It was anticipated that adsorption might dominate the response during the first days of the study before the nutrients reached equilibrium. All other study conditions remained unaltered (see Figure 4).

## 5.3 Study Overview

A review of the study on a daily basis is necessary to understand what factors may be limiting bioremediation.

Day 10 Day 9 Day 8 Cold Study - Carbon Dioxide Production - Weekly Trend Day 7 Day 6 y mendment Day 5 Day 4 Day 3 Day 2 Amendment Day 1 9 2 mg CO2

Flask A

Flask B

Flask C

Figure 4 Acustar - Dayton, Ohio

On day one, the samples were allowed to stabilize after a composite soil sample had been made from the twelve discrete samples. An aliquot of the composite sample was then analyzed for soil chemical characteristics. This composite sample initially contained no nitrate-nitrogen and no ammonia or nitrite as previously discussed. The composite sample also contained approximately 75 ppm of phosphorous. The organic content of the composite sample was approximately 1% with a moisture content of 11.54%. The flasks were incubated at 4°C.

On day two of the study, the nutrients were added to the reactor vessels as discussed.  $CO_2$  production levels were measured for each reactor vessel. The two control vessels showed minimal  $CO_2$  production, as expected. Reactor vessel A showed the greatest increase in the rate of  $CO_2$  production. The live control (Reactor Vessel B) did not receive any amendments, therefore it provided the baseline or background production rate for carbon dioxide levels. The flasks were incubated at  $4^{\circ}C$ .

On day three, 24 hours after the initial addition of nutrients, the CO<sub>2</sub> level began to increase in reactor vessel A. This increase in CO<sub>2</sub> level was due to the addition of nutrients and aeration by mixing the soils in the reactor vessels. All vessels including the controls were agitated on a mechanical mixer for ten minutes. Reactor vessel A showed a production level greater than both the live control (Reactor Vessel B) and the dead control (Reactor Vessel C). The flasks were again incubated at 4°C.

On day four, the carbon dioxide levels were again measured in each reactor vessel.  $CO_2$  production levels had slightly decreased from the previous day. This was expected since the samples were not mixed or aerated as they had been on day three. The  $CO_2$  production levels showed that reactor vessel A which contained the additional nutrients, yielded the highest  $CO_2$  concentration. Reactor vessel A showed a  $CO_2$  production level greater than the live control, which indicates that biological activity is occurring in the flask because of physical and chemical amendments to the soils. The killed control showed no discernible  $CO_2$  production rate. The flasks were again incubated at  $4^{\circ}C$ .

On days five and six, CO<sub>2</sub> production levels continued to fall. Reactor vessel A did register a CO<sub>2</sub> level greater than the live control, which indicates that metabolic activity was occurring, although at a lower level than before. After the CO<sub>2</sub> readings were taken on day seven, additional nutrients were added to the reactor vessels to determine if there

WELL LOG AND DRILLING REPORT
Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

TYPE OR USE PEN SELF TRANSCRIBING GRAH SSERY 96.S087 AMQ

Date of Well Completion Total Depth of Well ft.	
(If more space is needed to complete drilling log, use next consecutively numbered form.)	Signed Date
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lginətsM ————————————————————————————————————	Elevation of Well
Diameter Slot Size Screen Length	m 10. ft Y &
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BOHEHOLE/CASING (measured from ground surface)  - Rotary - Cable - Augered - Driven - Other	County Township
	NAULANA TERM
CONSTRUCTION DETAILS	WELL LOCATION

would be a simultaneous increase in metabolic activity. It was also believed that there may have been some adsorption on the soils of the initial nutrients and to overcome this, additional nutrients would be necessary.

On day seven, there was an increase in metabolic activity, as evidenced by increased CO<sub>2</sub> rates. The controls also showed slightly elevated CO<sub>2</sub> levels because of the aeration and mixing, as expected.

On day eight, nine, and ten, the CO<sub>2</sub> production levels began to decrease. Reactor vessel A did register a CO<sub>2</sub> level greater than the live control, which indicated that metabolic activity was occurring, although at a lower level than before. Reactor vessel A, which contained 8% nutrients, achieved the highest sustained CO<sub>2</sub> production levels, indicating that lack of nutrients is a major factor presently inhibiting biodegradation (see Figure 5). Table 6 shows the final results of the chemical characteristics of the soil for each reactor vessel. The final chemical results indicate that the bacteria were nitrogen starved in all forms. The pH had been adjusted to optimal levels for maximum bacterial growth.

TABLE 6 - SOIL CHEMICAL CHARACTERISTICS - FINAL SAMPLES

Reactor				Ammonia	
<u>Vessel</u>	<u>рН</u>	<u>Nitrate</u>	<b>Phosphorous</b>	<u>Nitrogen</u>	<u>Nitrite</u>
A	7.6	ND	12.5 ppm	100 ppm	ND
В	7.2	<5 ppm	75 ppm	ND	ND
C	7.1	<5 ppm	75 ppm	ND	ND

ND = Not Detected (<1 ppm)

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SOO gm

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Flask C

Flask B

Flask A

#### 6.0 CONCLUSIONS AND RECOMMENDATIONS

The feasibility study indicated that the lack of nutrients in the soils is one of the limiting factors at the Dayton site. Microbial respiration, as determined by measuring CO<sub>2</sub> evolution, confirmed that the growth of the indigenous microbial community under ambient conditions was occurring but at a very slow rate. This indicates that even though hydrocarbon degrading microbes are present, the present environmental conditions do not allow the existing microbes to function effectively.

Degradation of hydrocarbons by enhanced biological methods is dependent on a number of factors. The most important factors include:

- The existence of indigenous microbes capable of degrading the contaminants of concern:
- Hydrocarbon type and concentration;
- Soil type and structure;
- Nutrient availability;
- Moisture content;
- Oxygen availability (Aerobic processes).

The first factor was analyzed for this site. Fertile soils usually contain 10<sup>7</sup> to 10<sup>9</sup> microbes per gram of dry soil of which 10<sup>5</sup> to 10<sup>6</sup> are hydrocarbon degraders (prior to the addition of hydrocarbons). After hydrocarbons have been added, hydrocarbon degraders increase to 10<sup>6</sup> to 10<sup>8</sup> microbes per gram of dry soil.

The composite soil sample was analyzed by standard plate count which is a direct quantitative measurement for aerobic and facultative anaerobes. The standard plate count for the Dayton soil composite was  $4.0 \times 10^7$  microbes per gram of dry soil (see Figure 6). These indicate that there is an indigenous microbial population at the site which have been impacted by site conditions. If environmental conditions were suitable, the plate count should have been an order of magnitude greater. The microbial population count will have to be significantly increased to achieve desired contaminant reduction levels.